## STATO MAGGIORE DELL'ESERCITO

Ispettorato delle Trasmissioni

Nº 214

442

# **STAZIONI RADIO AN/GRC - 3- 4- 5- 6- 7- 8**

ISTRUZIONE PER OPERAI

**FIGURE** 



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ISTRUZIONE PER OPERAI

**FIGURE** 

### Approvo la presente istruzione per operai

"Stazioni radio"

AN/GRC - 3 - 4 - 5 - 6 - 7 - 8 - (figure)

Roma, li Febbraio 1970

L'ISPETTORE DELLE TRASMISSIONI (Gen. C.A. Sergio GIULIANI)

## NOTE E GLOSSARIO PER FACILITARE LA LETTURA DEGLI SCHEMI E DELLE SCRITTE

#### - A -

- Tensione d'accensione filamenti. + A

- Regolazione. AD.I - Regolazione ADJUST - Bassa frequenza AF

- Controllo automatico frequenza AFC

- Tutto e tutti ALL AMPLIFIER - Amplificatore - Antenna ANT. . Bassa frequenza

AUDIO

- Ausiliario AUX

A C - Corrente alternata (c.a.) o componente alternata.

#### - B -

+ B - Tensione anodica BALLAST - Stabilizzatore

- Oscillatore di note-di battimento BEAT (Osc.)

BELL - Suoneria

BIAS - Polarizzazione

- Basetta BOARD BOTTOM - Inferiore BOX - Scatola

### - C -

- Tens. polarizzazione di griglia - C

C . . . . . . . - Condensatore

CAL. - Calibrazione - taratura - Calibrazion e - taratura CALIBRATE

CH - Canale CHANNEL - Canale - Tabella CHART CIRCUIT - Circuito CKT · Circuito COM. - Comune

CONN. - Connession - collegamenti

COMMON - Comune CONT - Comando - controllo
CONTROL - Controllo - comando
CORD - Cavo - cordone
COUPLING - Accoppiamento
CX - Cavo - cordone

- D -

DETENT (VERNIERS) - Vernieri - compensatori

DIAL • Indice • quadrante
DISCRIMINATOR • Discriminatore

DRIVER - Pilota (dell'amplif. di potenza)

DUPLEX - Duplice

DE-EMPHASIS - Attenuazione delle note più alte della

bassa frequenza

D C - Corrente continua (c.c.) o componente continua

- E -

EACH - Ciascuna
EAR - Ascolto

EARPHONE - Padiglione telefonico

EDGE - Orlo-parete

EQUALIZING - Di equalizzazione

EXT - Esterno

F..... Fusibile

FIELD - Campale (funzionamento)

FIL. - Filamenti
FILAMENT - Filamenti
FILTER - Filtro

FIXED - Non variabile-fisso

FROM - Dal. . . . . . . from rec. RF Ampl. V 1

dall'amplif. di ric. a RFV 1

FRONT - Fronte-parte frontale

FUSE - Fusibile

• G -

GND - Massa
GRID - Griglia
GROUND - Massa

```
- H -
                      - Cuffia - microfono
Н . . . . .
HARM.
                      - Armonica
HARMONIC
                      - Armonica
                      - Microtelefono
HANDSET
                      - Alta (potenza)
HIGH
                      - Tenere - mantenere (premuto)
HOLDON
                            - I -
                      - M. F.
IF
IF
                      - Se
IN
                      - Ingresso - entrata
IMPUT
                      - Ingresso
INSIDE
                      - Dentro
                      - Interfono
INT.
                            - J -
                      - Presa (jack)
J. . . . . . . .
JUMPER-
                      - Ponticello
                            - K -
                      - Mille-es.: 100 K = 100.000
K
                            - L -
                      - Bobina
LAMP
                      - Lampada
                      - Comando - controllo - precedenza
LEAD
                      - Livello - volume
LEVEL
LIGHT
                      - Luce-illuminazione
LIMITER -
                      - Limitatore
                      - Linea
LINE
                      - Carico
LOAD
LOCAL
                      - Locale - vicino
                      - Bloccaggio - chiusura
LOCK
LOUD SPEAKER
                      - Altoparlante
                      - Bassa (potenza)
LOW
                      - Altoparlante
LS.....
                            - M -
                      - Mille
M
                      - Strumento
MEG
                      - Mega
```

METER MIC. MICROPHONE MIXER MOUTING	- Strumento - Microfono - Microfono - Mescolatore - Basedi montaggio - N -
NC	- Piedino non collegato
NE	- Lampada neon
NEUTRALIZING	- Di neutralizzazione
NOTE	- Nota
	• 0 -
0	- Relè
OFF	- Spento - esluso
ON	- Acceso - chiuso
ONLY	- Solo
OPERATE	- Funzionamento
OR	- O-oppure
ORG	- Organizzazione
OSCILLATOR	- Oscillatore
OTHER	- Altro
OUT	- Uscita
OVER (VOLTAGE)	- Relè termico
	• P •
P	- Spina (PLUG)
P.A.	- Amplif. finale potenza (RF)
PART OF	- Componente del
PHONE	- Cuffia
PIN	- Piedino
PLATE	- Placca
PRE-EMPHASIS	- Esaltazione delle note più alte della
	bassa freq.
POS.	- Posizione
POSICTION	- Posizione
POWER	- Alimentazione-alimentatore-potenza
PRESET	- Preselezione
PRI PUSH TO TALK	- Primario (di trasformatore)
LOSH TO TAPK	- Premere per parlare (funzionamento in semplice)
	sempiree/

- Alimentazione - potenza PWR - R -- Resistenza R. . . . . - Ricezione-ricevitore RCVR - Reattanza, mod. a reattanza REACTANCE - Dietro - parte posteriore REAR - Ricezione REC - Ricezione RECEIVE - Raddrizzatore RECT. - Raddrizzatore RECTIFIER - Rosso RED - Lontano REMOTE - Ritrasmissione RETRANS - Ritorno (chiusura di un circuito) RETURN - Radio freg. RF - S -- Abbreviazione di commutatore (SWITCH) S..... - Griglia schermo SCREEN - Secondario (di trasformatore) SEC SEct. - Sezione - Sezione SECTION - Vedere SEE - Sensibilità SENSITIVITY - Eccitazione in serie (vibratore) SERIES-DRIVE SET - Apparato - Eccitazione in parallelo (vibratore) SHUNT-DRIVE SIDETONE - Autocontrollo SIGNAL - Segnale - Zoccolo SOCKET - Non usato - disponibile - di riserva SPARE SPEAKER - Altoparlante - Stadio STAGE - Ponticello STRAPPING - Alimentazione - alimentatore SUPPLY - Commutatore SWITCH - T -

> - Trasformatore - Tavola-tabella

- Carro armato

TABLE

TANK

TEL	- Telefono				
TENTHS	- Decine				
TERM	- Terminale				
TERMINAL	- Terminale				
то	- Al (es.: TO FIL METER POS 2 = allo strumento di misura del filamento, posizione 2).				
TOP	- Parte superiore (di sopra)				
TR	- Trasmissione				
TRANS	- Trasmissione				
TRANSMITTER	- Trasmettitore				
TUBE	- Valvola				
TUNE	- Sintonia				
TUNING	- Sintonia - sintonizzatore				
	- U -				
U	- Micro es.: UF=microfarad; UH=microhenry				
UNREGOLATED	- Non stabilizzata (tensione-corrente)				
	- V -				
V	- Valvola				
VAR.	- Variabile				
VHE -	- Veicolo - veicolare				
VIBR	- Vibratore				
VIEW	- Visto-veduta				
VOLTAGE REGULATOR - Stabilizzatore di tensione					
	- W -				
WIRE SIDE	•				
VIEW OF	- Visto dal lato dei collegamenti (cablaggio),				
•	- X -				
X	- Valvola (se vicino alla valvola)				
X	- Relè (se vicino al relè)				
XMTR	- Trasmissione - trasmettitore				
XTAL	- Quarzo - cristallo				
	•				

1st = primo

2<sup>d</sup> = secondo

3<sup>d</sup> = terzo

4<sup>th</sup> = quarto

#### NOTE:

- 1-Se non altrimenti specificato, tutte le resistenze sono in Ohm e i condensatori in picofarad.
- 2-Sui commutatori rotanti, i rotori sono distinti da lettere: A.B.C. ecc., i contatti fissi sono distinti da lettere e numeri. Le lettere indicano i contatti ai quali il rotore fa capo: i numeri la posizione dei contatti stessi.
- 3-Tutti i commutatori rotanti negli schemi elettrici sono mostrati dalla parte interna.



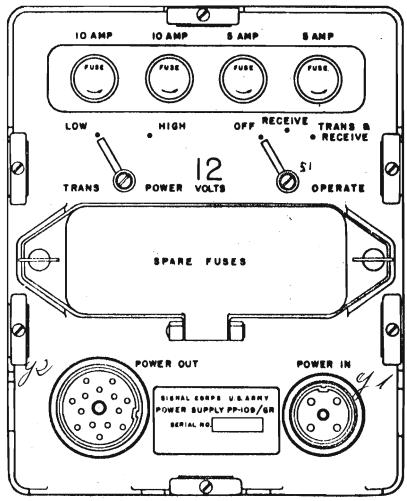
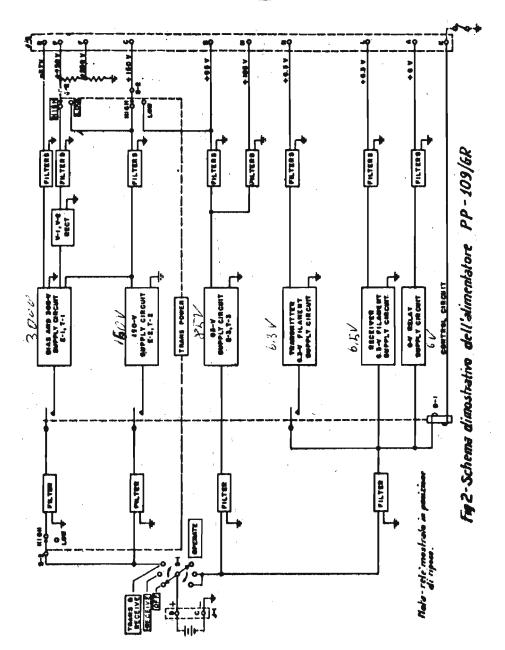
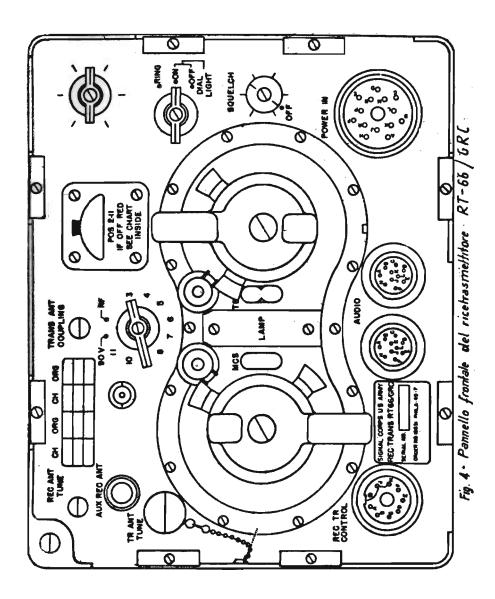


Fig.1-Pannello frontale dell'alimentatore PP-109/6R





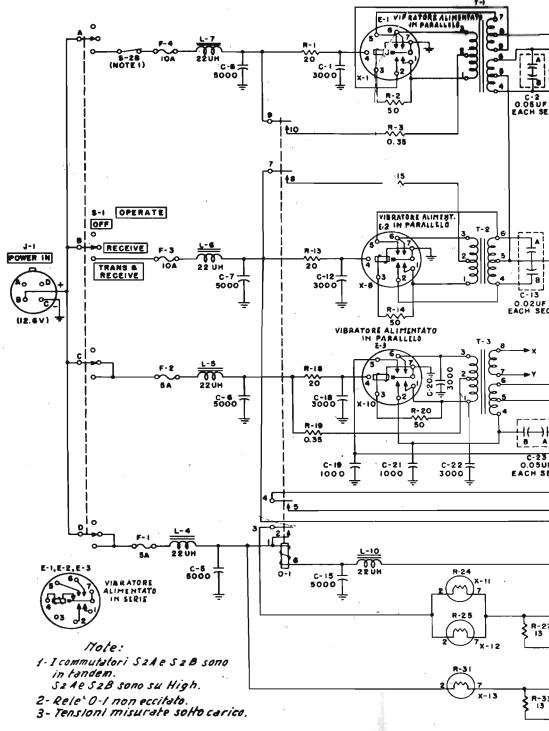
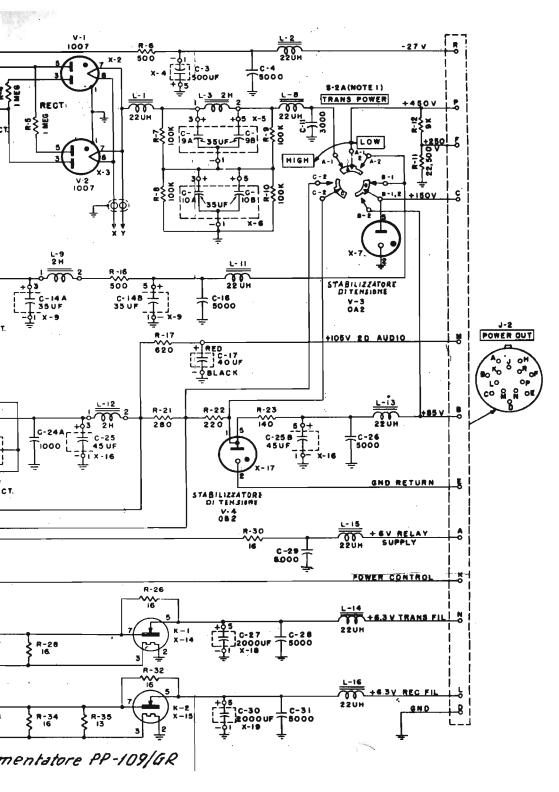
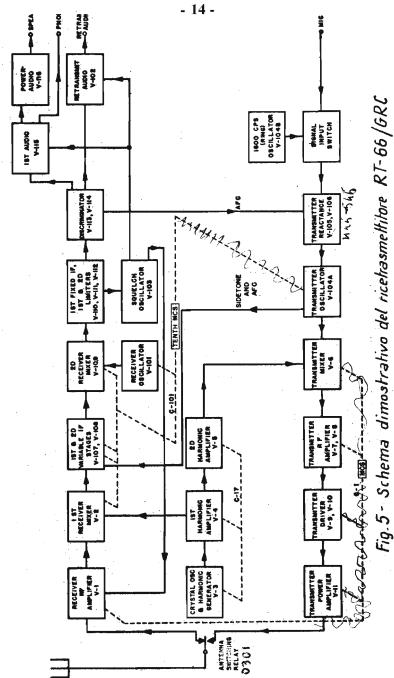


Fig. 3 - Circuito elettrico Ali.





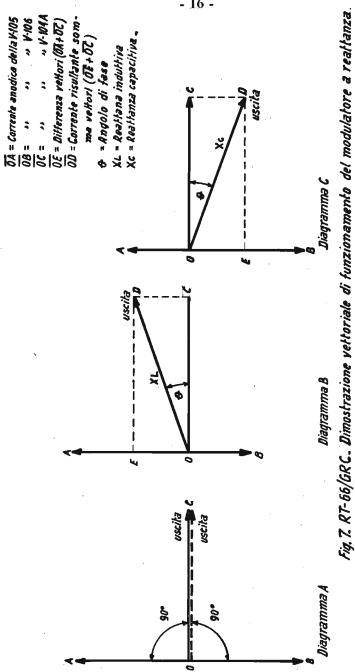
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1 (QU -1

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Fig. 6. RT-66/GRC. Lircuiti del micratomo, del modulatore a reattanza e dell'oscillatore di trasmissione.

( \*0\*\*)



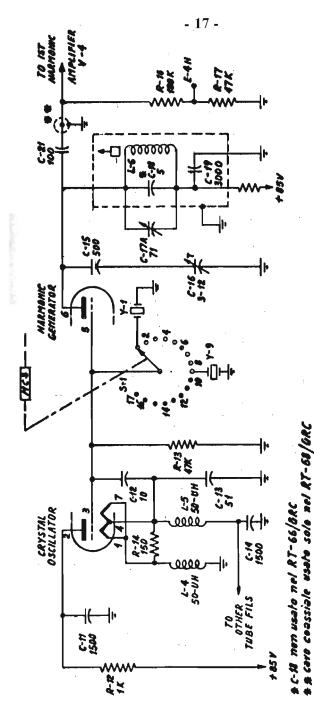


Fig. 8. RT-66/GRC. circuiti dell'oscillatore a quarzo e del generatore di armoniche

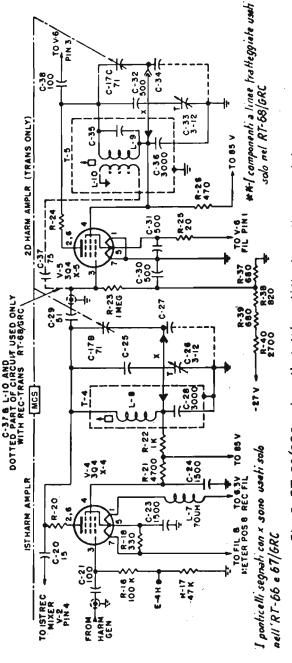


Fig. 9-RT-66/6RC; circuiti dell'amplificatore di armoniche.

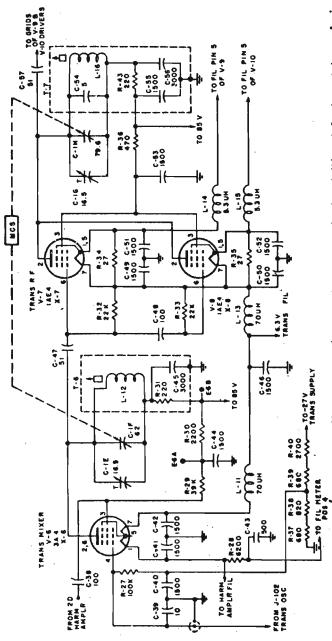
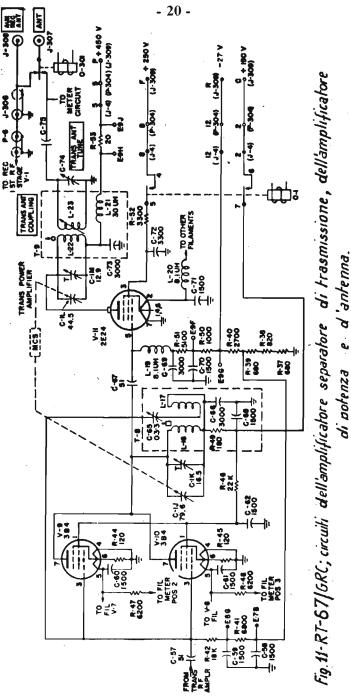
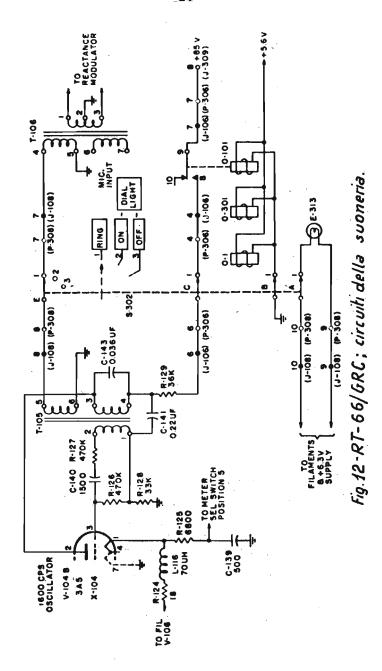
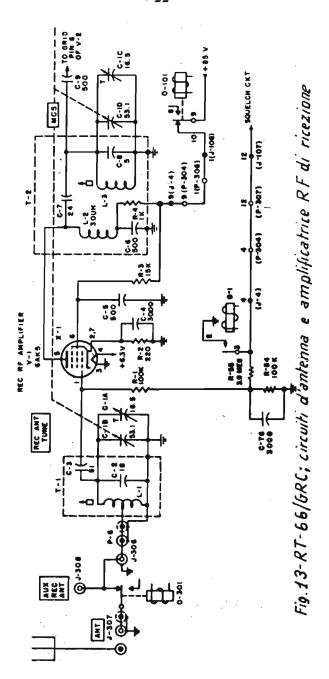
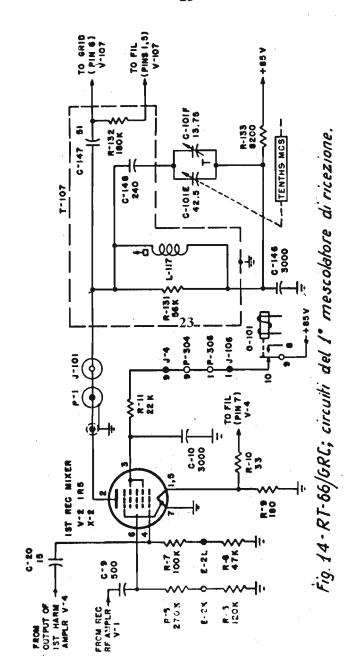


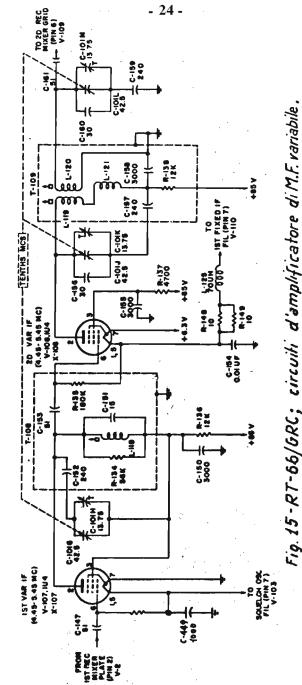
Fig. 10-RT-66/GRC; circulti del mescolatore di trasmissioni e dell'amplificatore di trasmissione











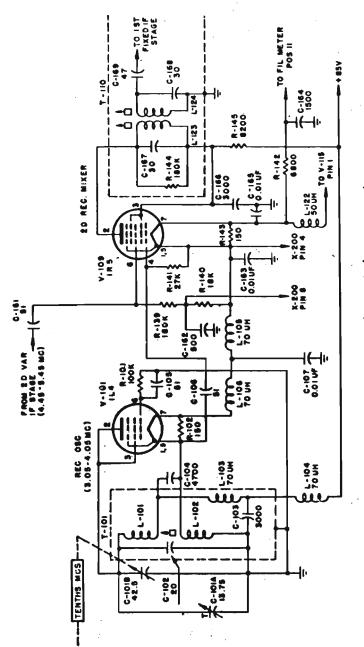
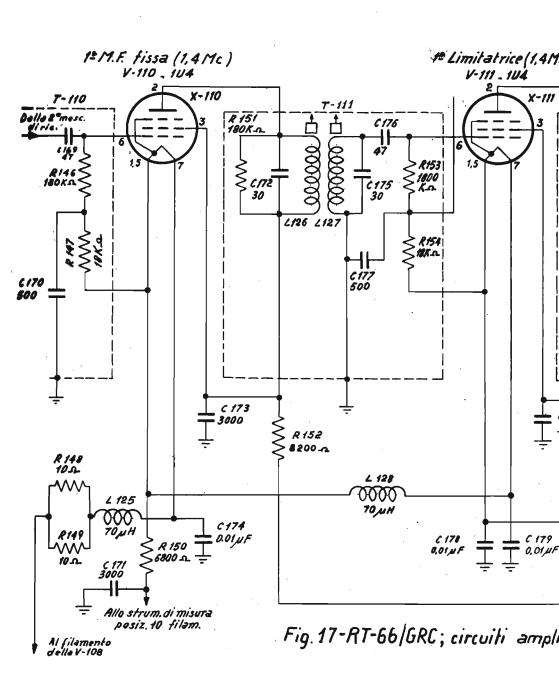
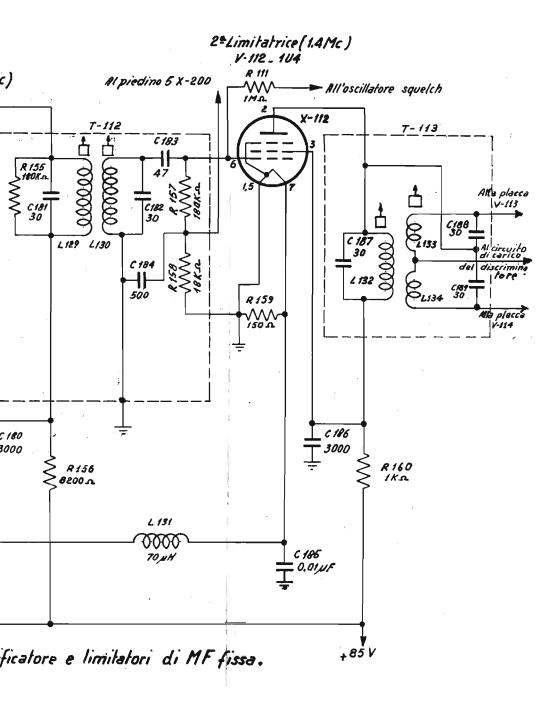


Fig. 16-RT-66/6RC; circuiti dell'oscillatore di ricezione e del 2º mescolatore.





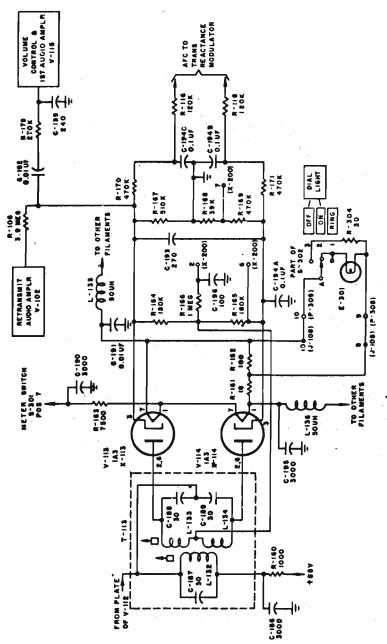
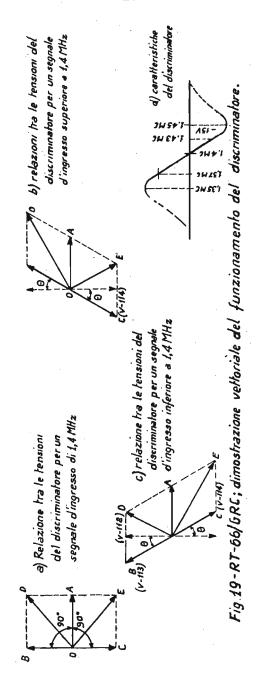


Fig. 18- RT-66/GRC; circuiti del discriminatore



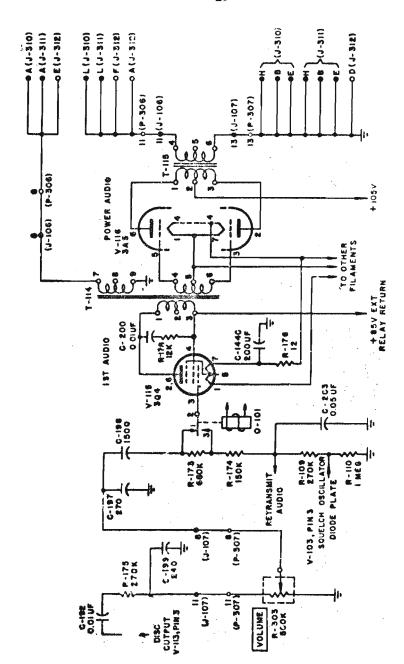
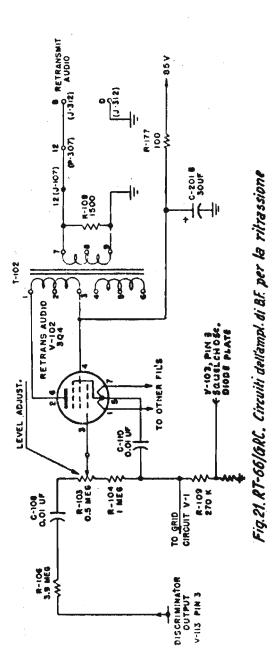


Fig. 20-RT-66/GRC; circuiti del 1º e 2º amplificatore di BF in ricezione.



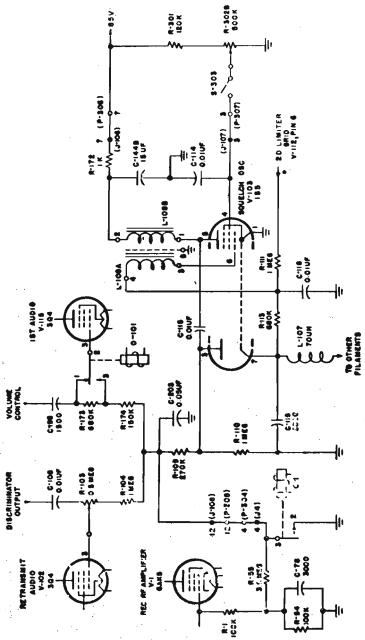


Fig. 22. RT-66/0RC. Circuiti della squetch.

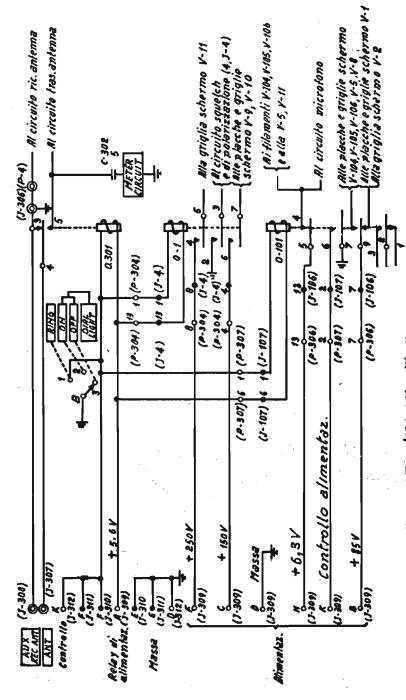


Fig. 23. RT-66/6RC. Circuiti di comando

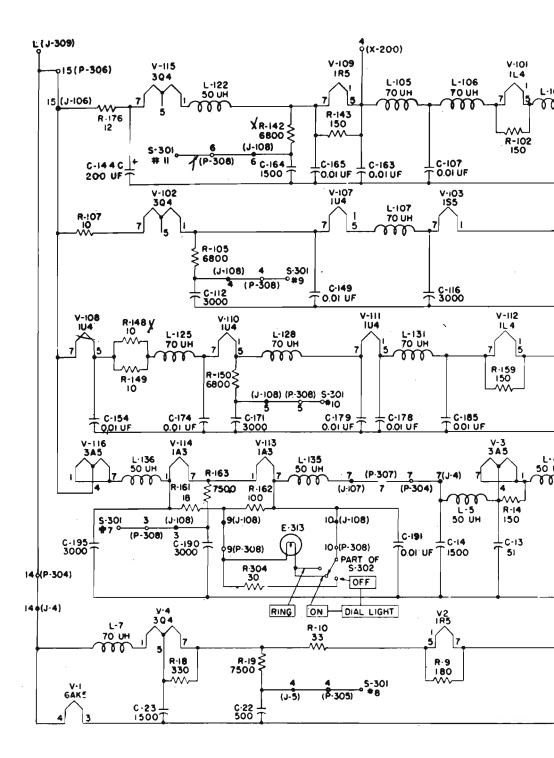
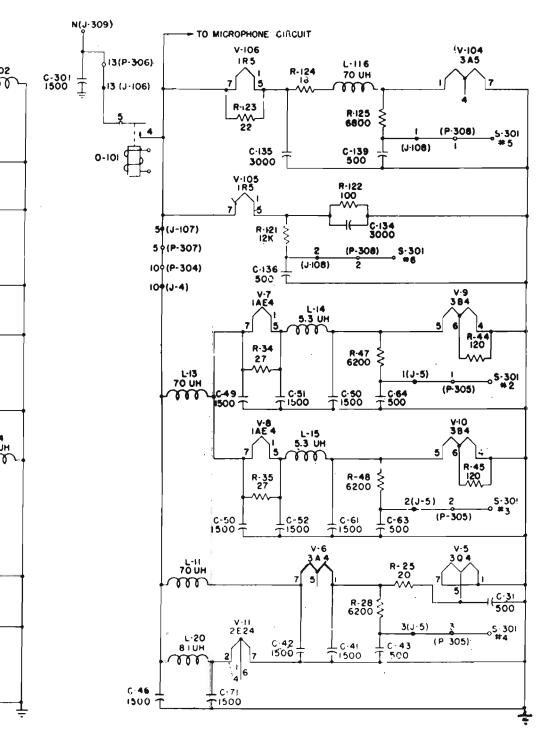
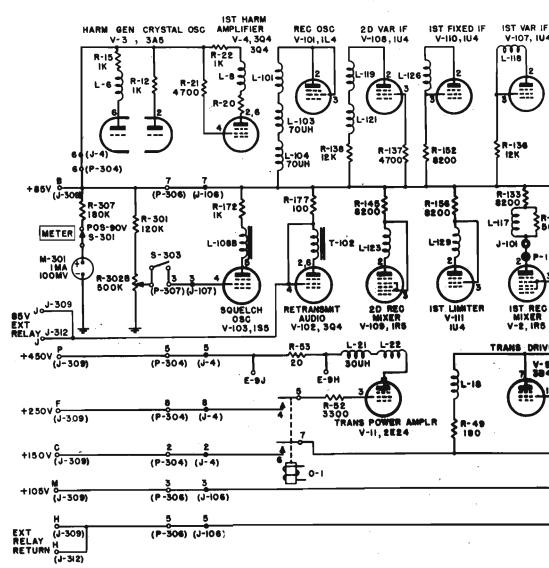


Fig. 24-RT-66/

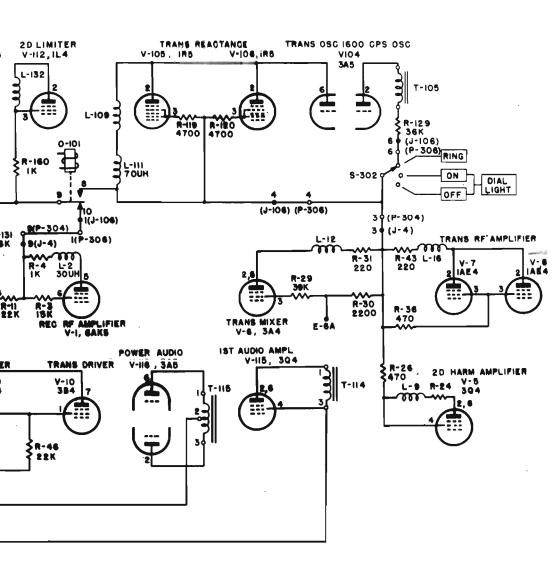


GRC; circuiti dei filamenti.



Nota: ... nele' esterno (o ponticello) (allegalo tra J e H del J312, estende l'alimentazione (+85) alla V115 Il rele esterno e'eccitato quando lo squeich e'su off.

Fig. 25-RT-66/GRC; circuiti d'alimei



ntazione anodico e delle griglie shermo.

## Londizioni:

- 1-Misure oftenute con voltmetro a 2000 a V in assenza di segnali
- 2- Comando squelch su off.
- 3-Le letture in parentesi sono aseguite con pulsanta del microfono aressato.
  - Il terminale K del J-312 va posto a massa se si deve eseguire una sola lettura.
- 4-le misure delle resistenze vanno eseguite con le valvale installate e tutte le spine aconnesse.
- 5-Tulle le misure sono riferite alla massa.

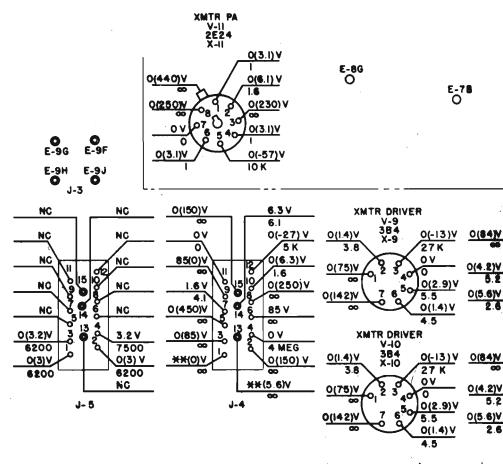
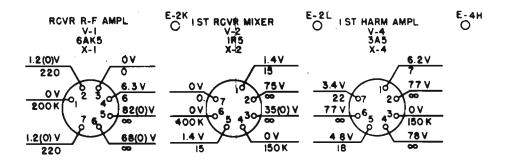
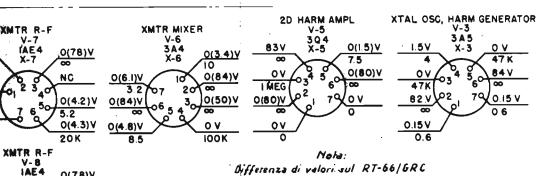


Fig. 26-RT-66/GRC; misur



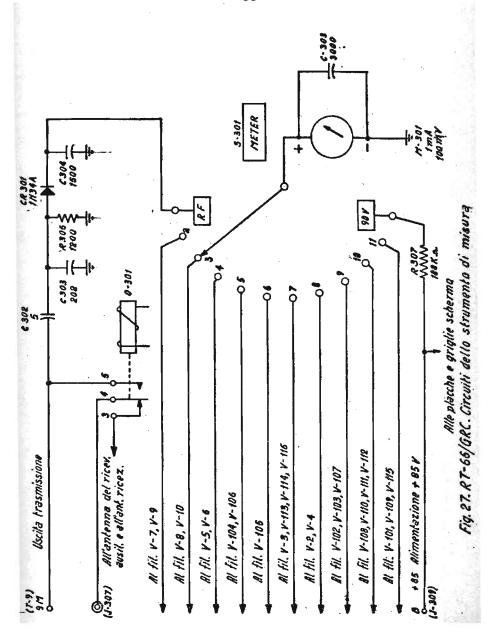
E68 E-6A



IAE4 X-8	0(78)V ∞
18.30	NC
1012340	0(4.2)
	5.2
	0(4.3)V
	20 K

TUBE	PIN	VOLTAGE	RESISTANCE
V-103	- 1	L6	17
	3		510 K
	6		150 K
	7	3.0	23
V-107	7	1,5 O	1 <b>6</b> 0

a delle tensioni e resistenze del telaio di P. F.



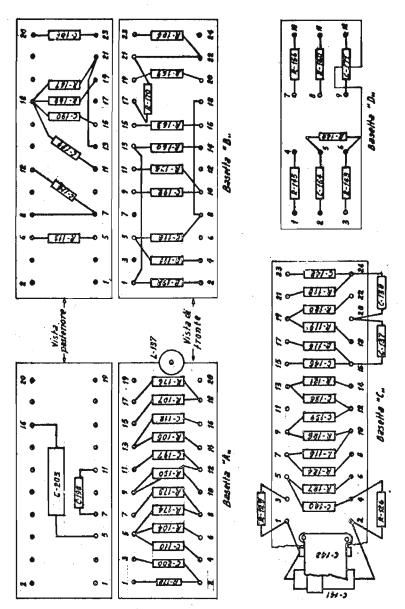


Fig. 28\_RT-66/6RC. Basette terminali

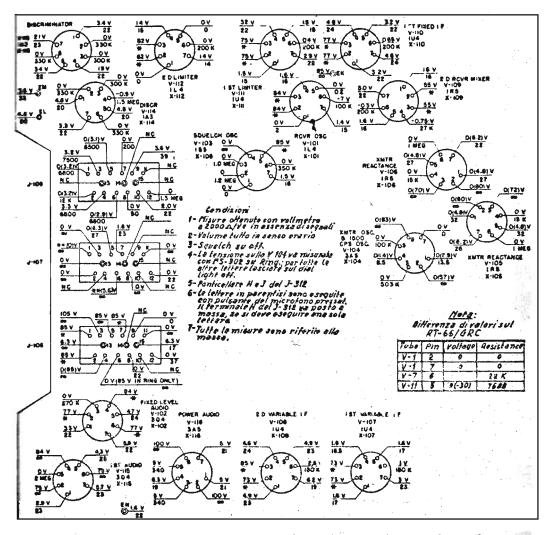


fig. 29. RT-66/GRC. Misura delle tensioni e resistenze nel telaio di MF

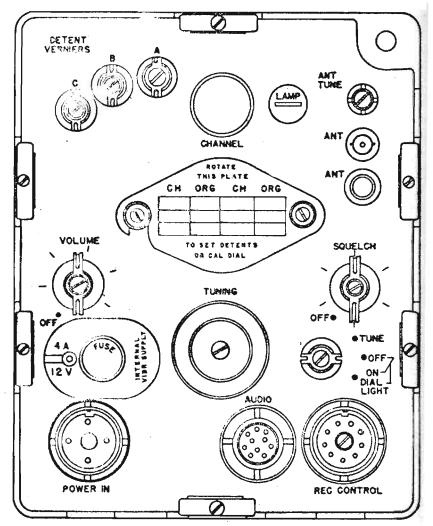


Fig. 30. R-108/GRC. Pannelle frontale del ricevitore

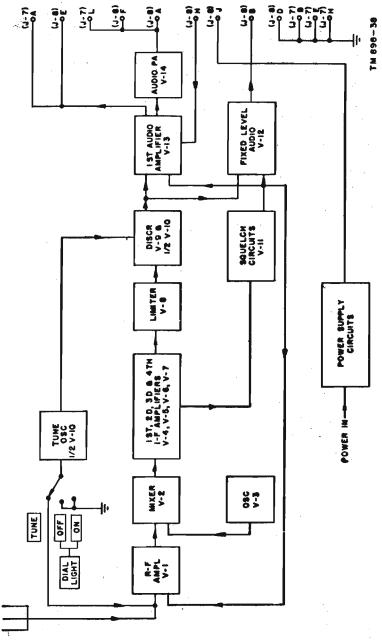
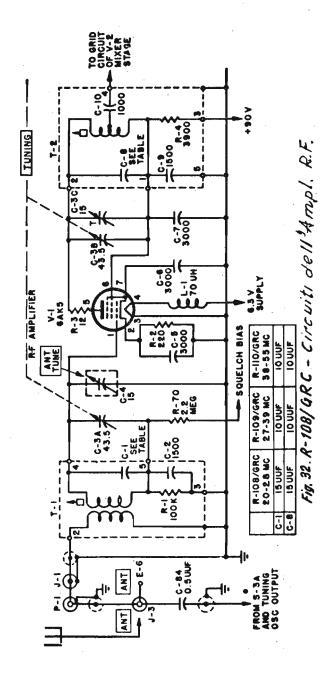


Fig.31. R-108/6RC. Schema dimostrativo



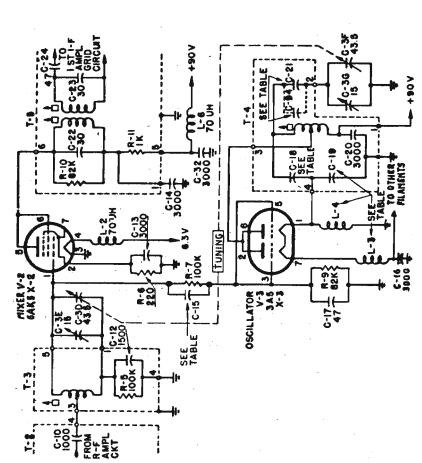
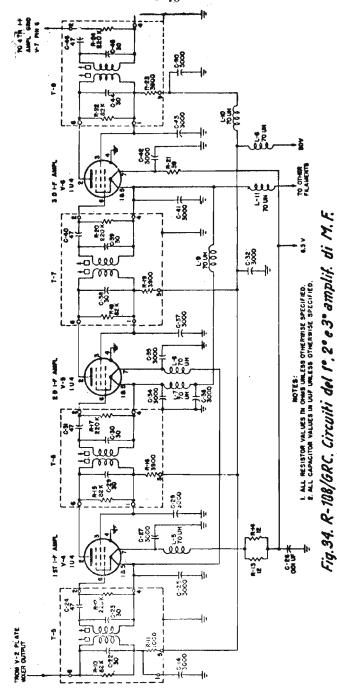
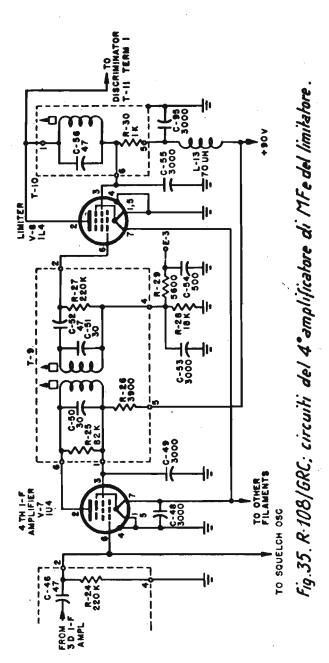
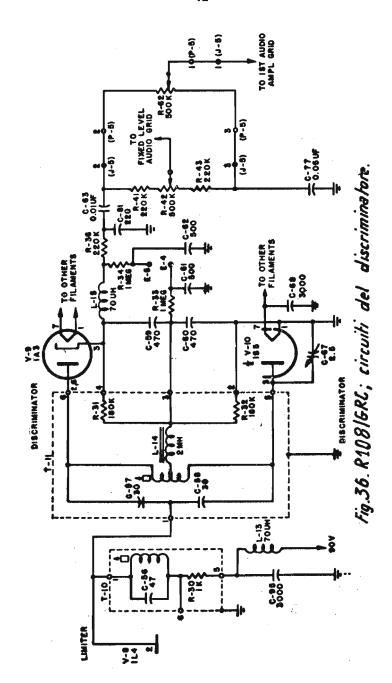
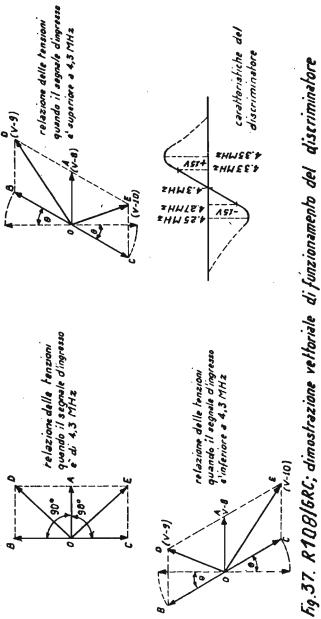


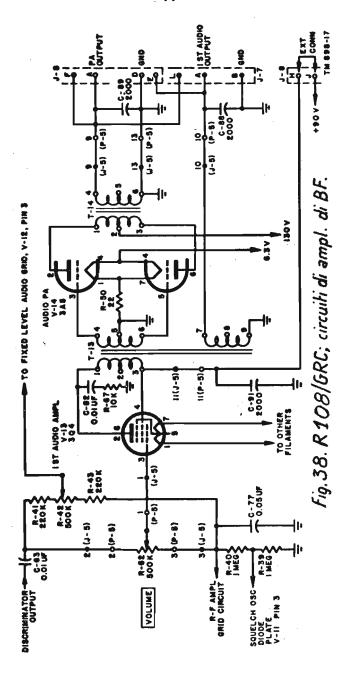
Fig. 33. F.108/6RT. Circulti dell'ascillatore variabile e del mescolatore

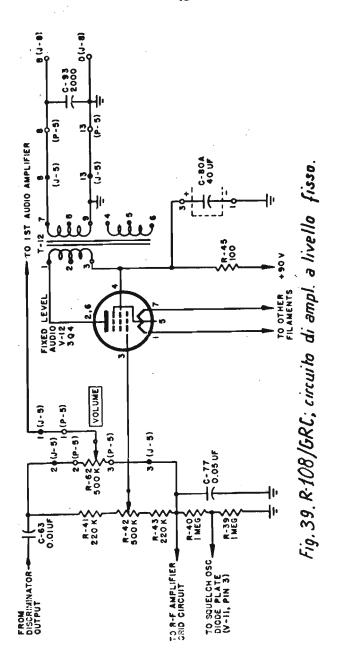


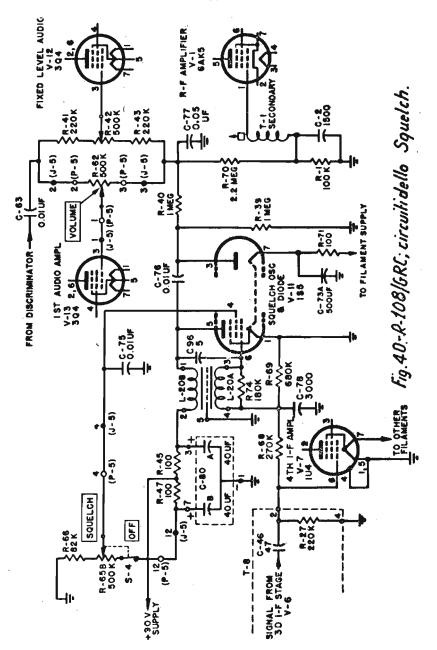


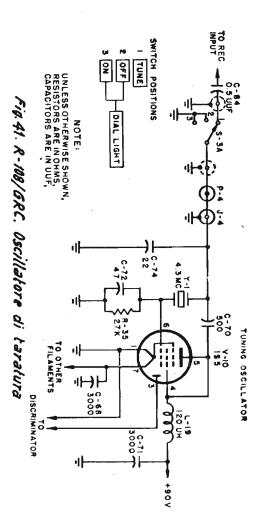


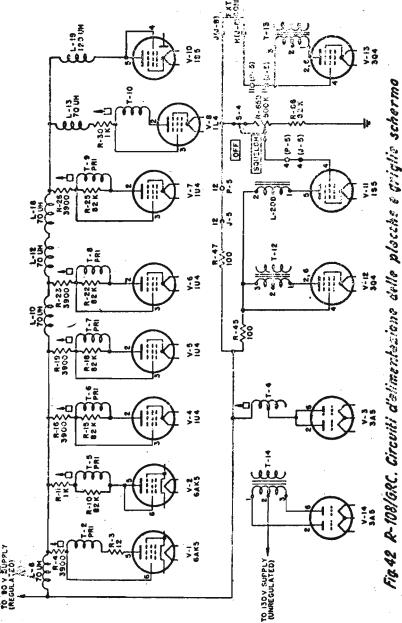


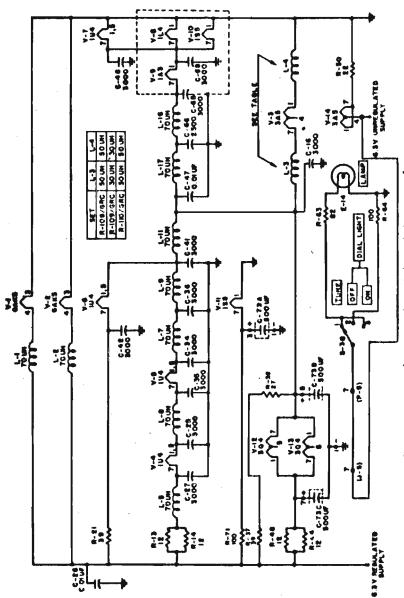












Fry. 43. R-108/6RC. Circuiti dei filamenti

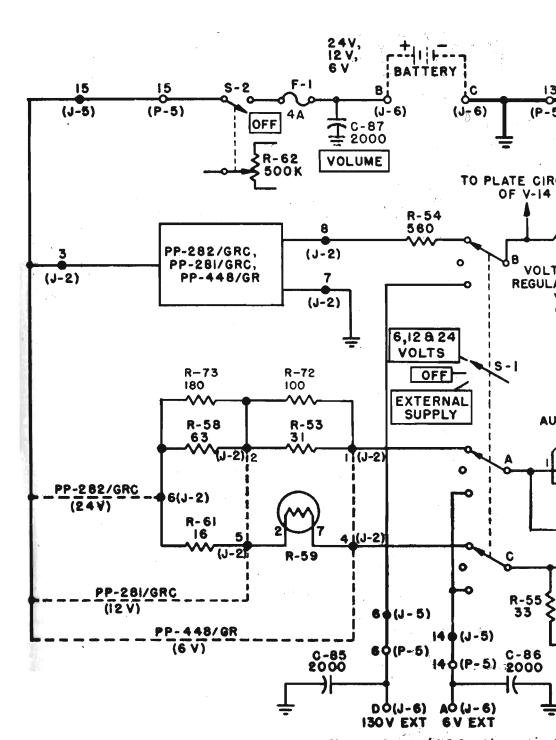
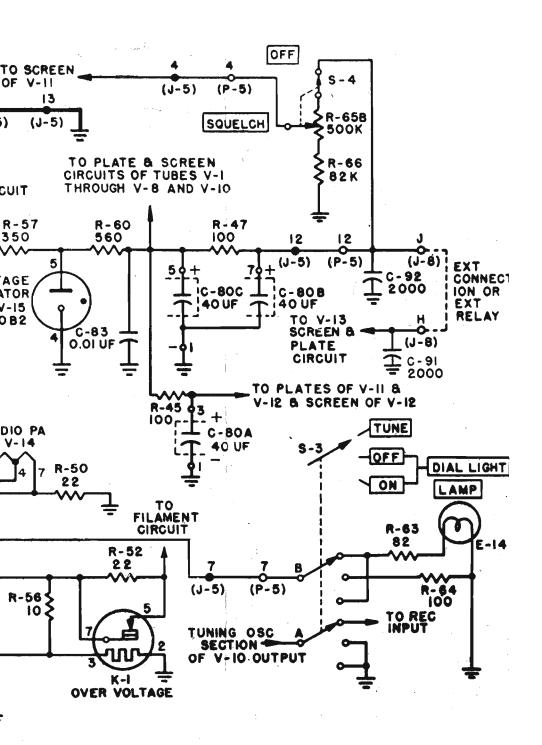
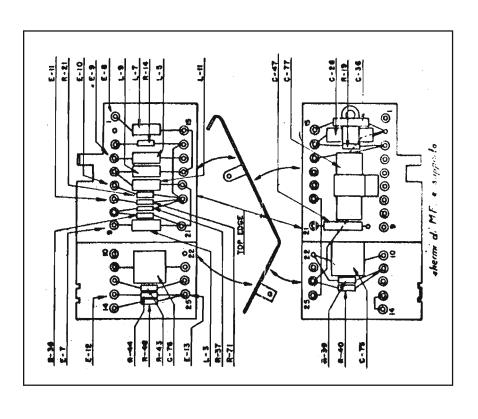


Fig. 44. R-108/GRC. Circuiti di



comando d'alimentazione



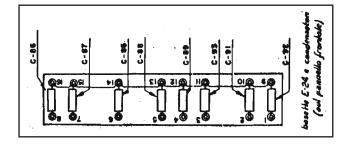
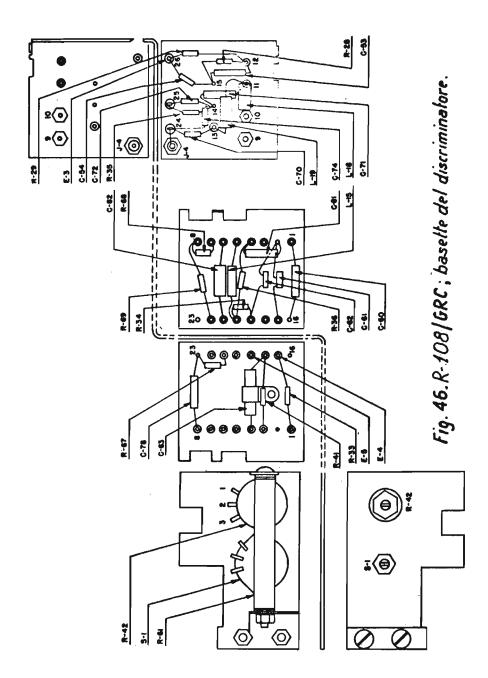
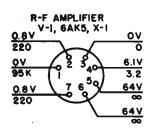
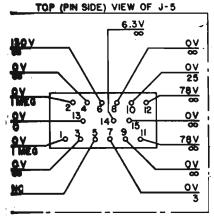
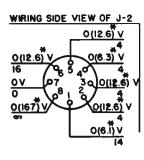


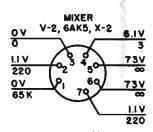
Fig. 45.R. 108/GRC; basetta terminale E-24 e basette di MF.





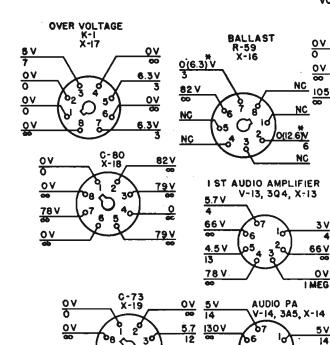






Note ( specifiche )

1-Tensioni aulla V-11 misurate con lo squelch tutto 2-Tensioni alla R59 e J2 oltenute del il PP-281/G 3-Tensioni sulla V-10 ottenute con y-1 installato e S



<u>5.7 V</u> 6

<u>0</u>V

WIRING SIDE VIEW OF CHASSIS

<del>&</del>

<u>3V</u> 63V

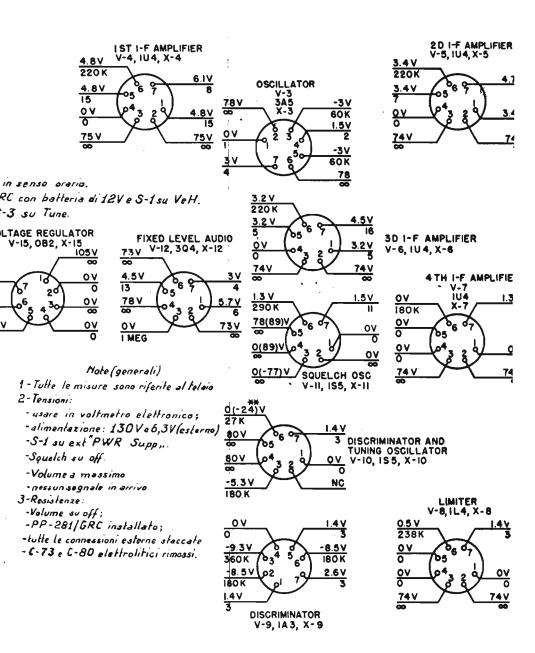
Fig.47- R-108 : misura de

<u>0 V</u>

5م

130 V

0 V



lle tensioni e delle resistenze.

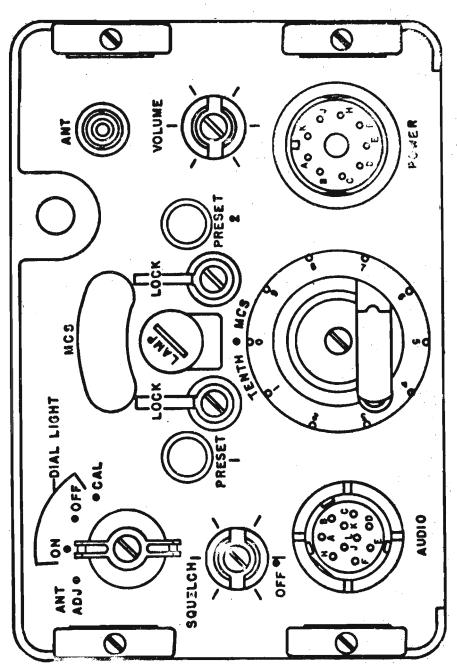


Fig. 48. Pannello del ricetrasmettitore RT-1U/ukf.

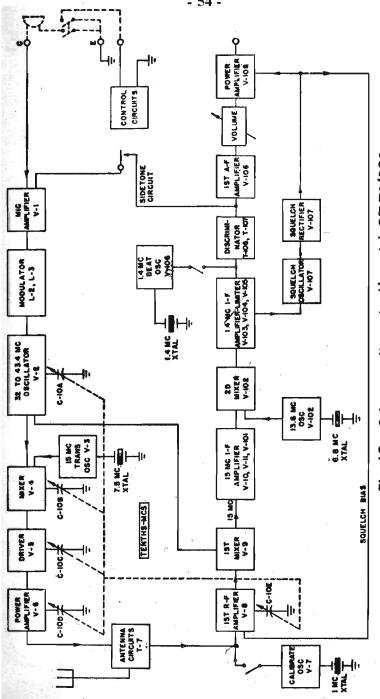


Fig. 49. Schema dimostrativo del RT-70/GRC.

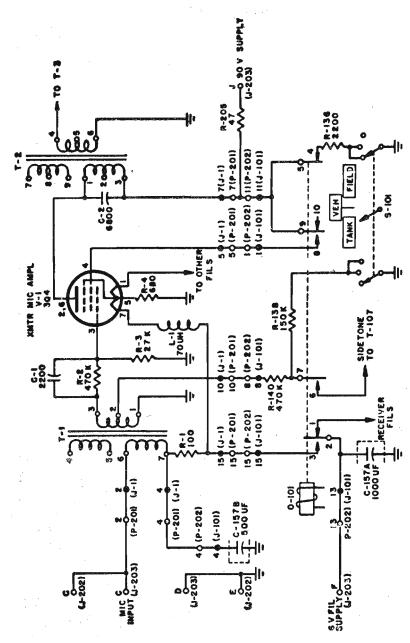
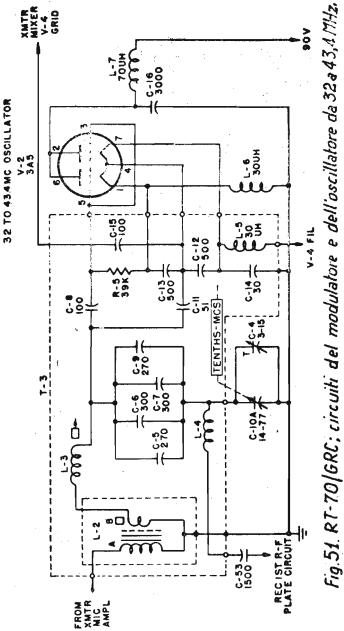


Fig. 50. RT-70/GRC; circuiti microfonici e di ampl. microfonica.



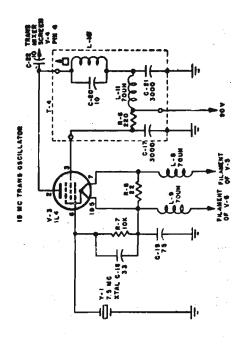
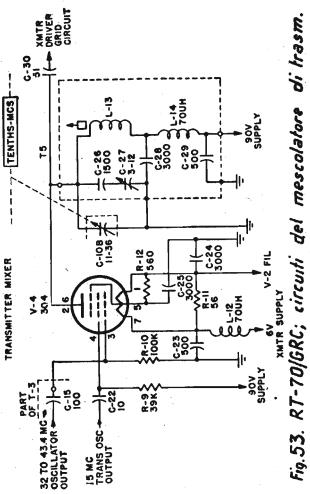


Fig. 52. RT-70/6RC; circuiti dell'oscillatore a 15 MHz.



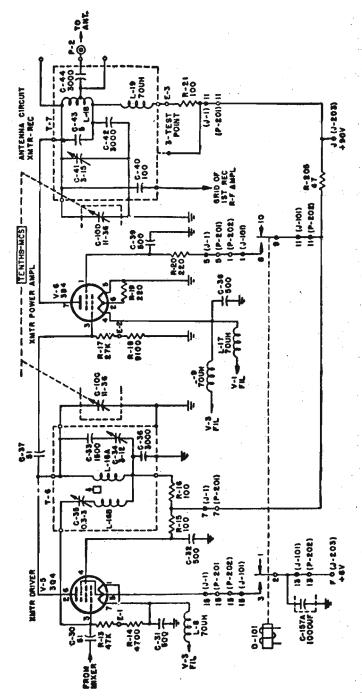
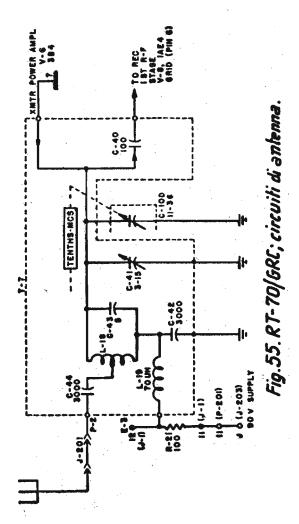
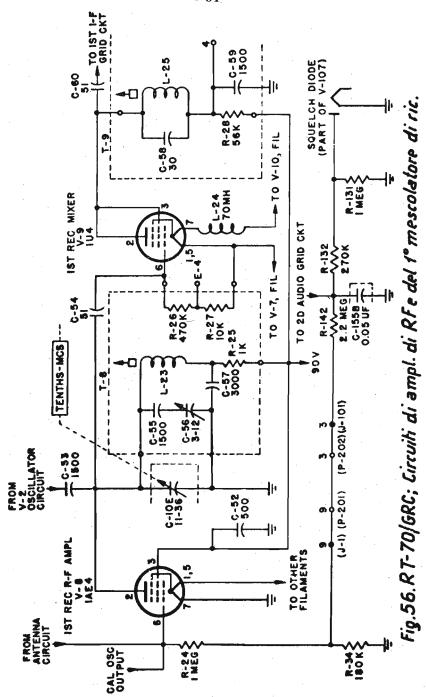
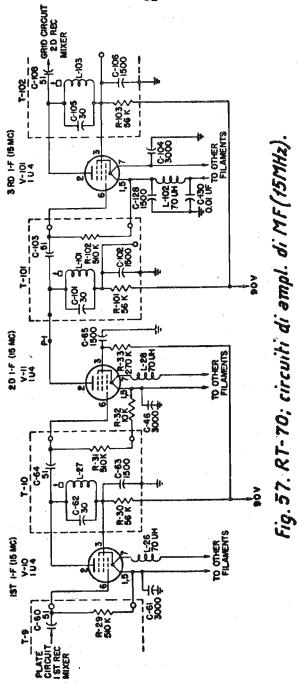
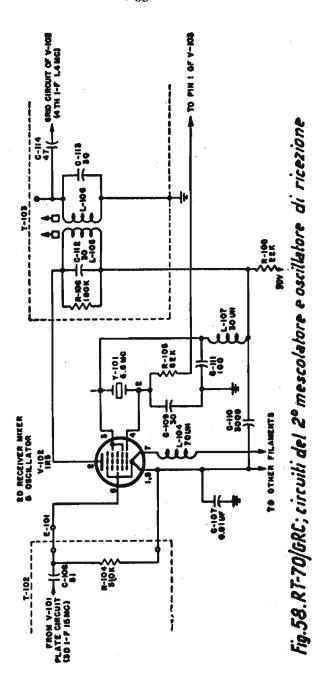


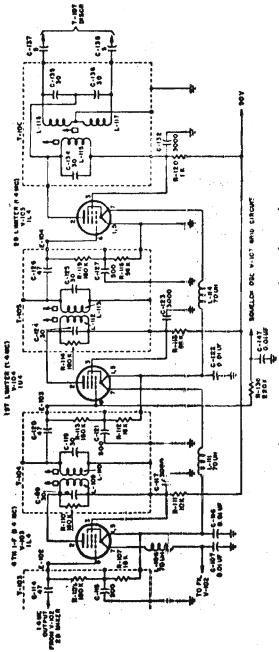
Fig. 54. RT-70/6RC; circuiti del preamplificatore e amplificatore di polenza di trasm.



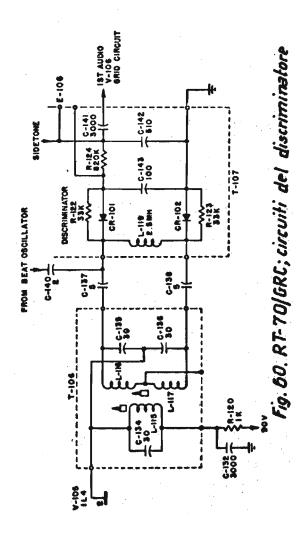








Fr. 59. RT-70/6RC; circuit di empl. di MF/441Hz] e di mitazione



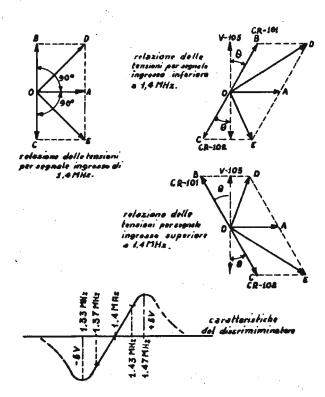


Fig. 61. RT-70/GRC; dimostrazione vettoriale di funzionamento del discriminatore.

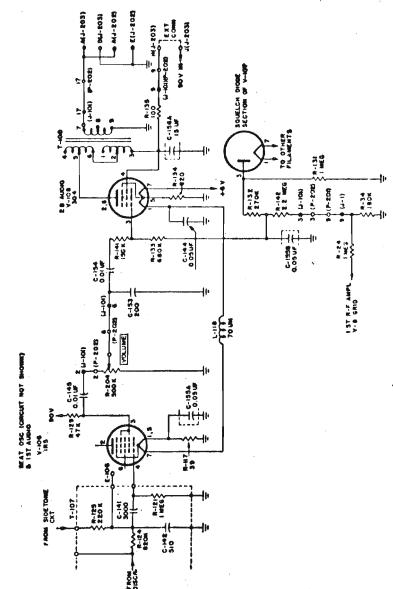


Fig. 62. RT-70/GRC; circuiti di amplificazione di B.F.

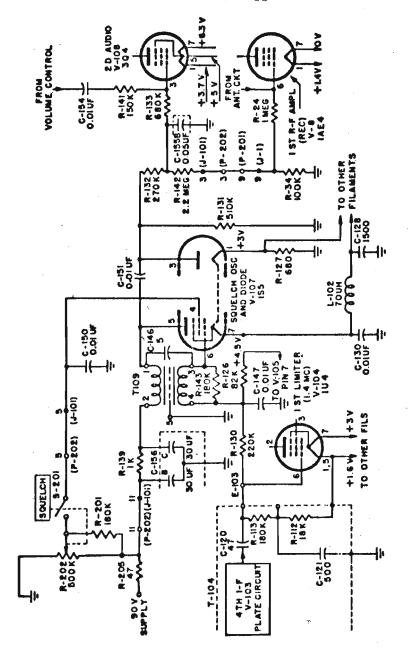
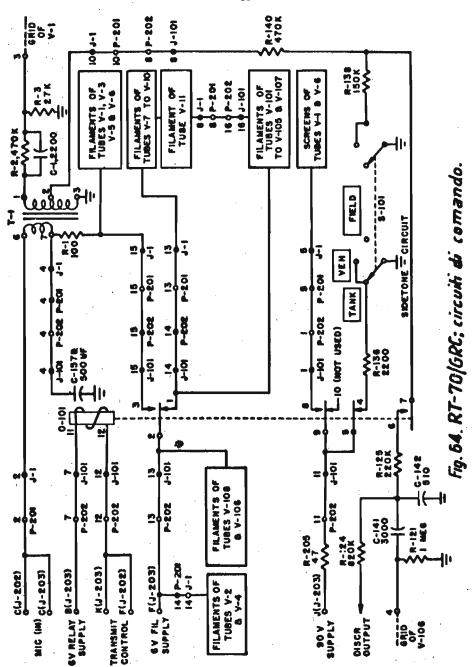


Fig. 63. RT-70/GRC; circuiti dello Squelch.



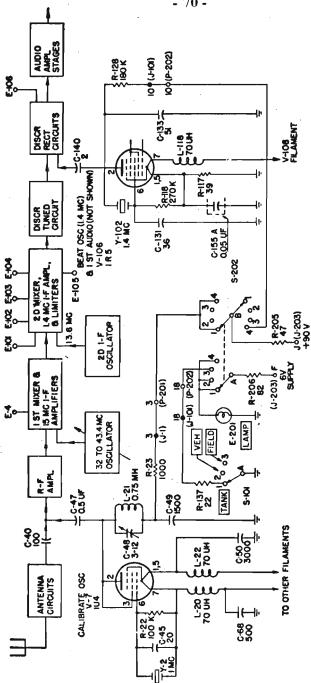


Fig. 65. RT-70/GRC; circuiti degli oscillatori di taratura.

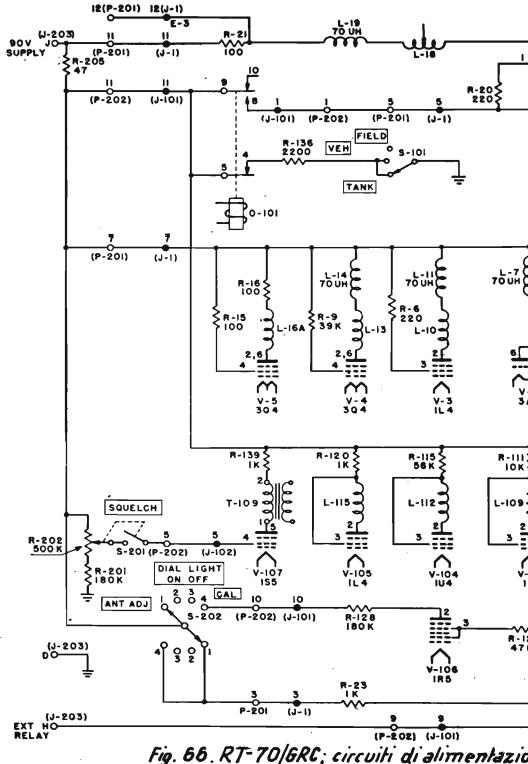
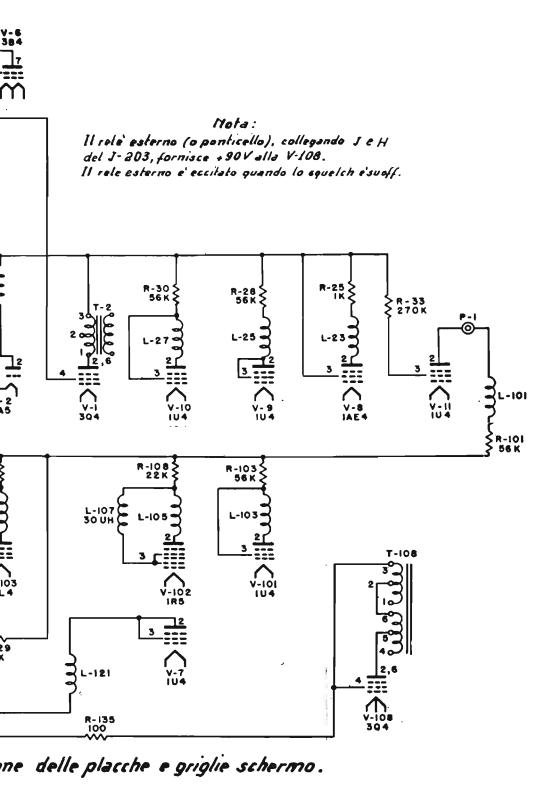
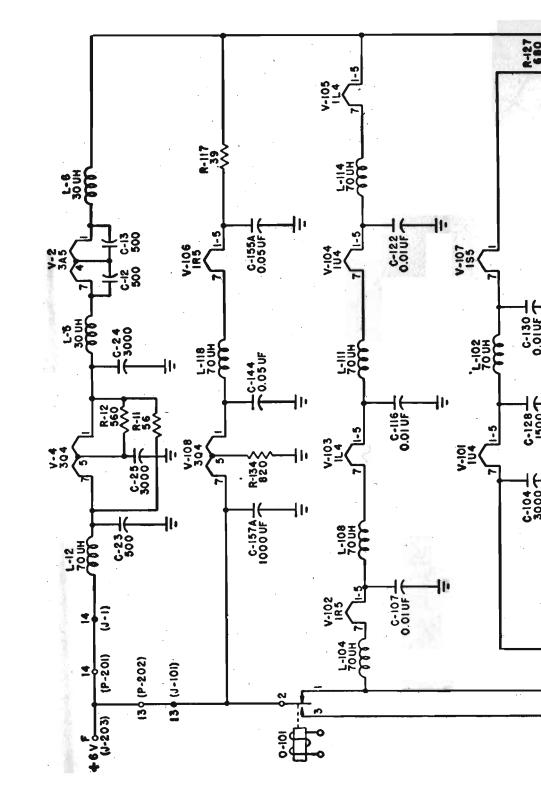


Fig. 66 . RT-70/6RC; circuiti di alimentazio





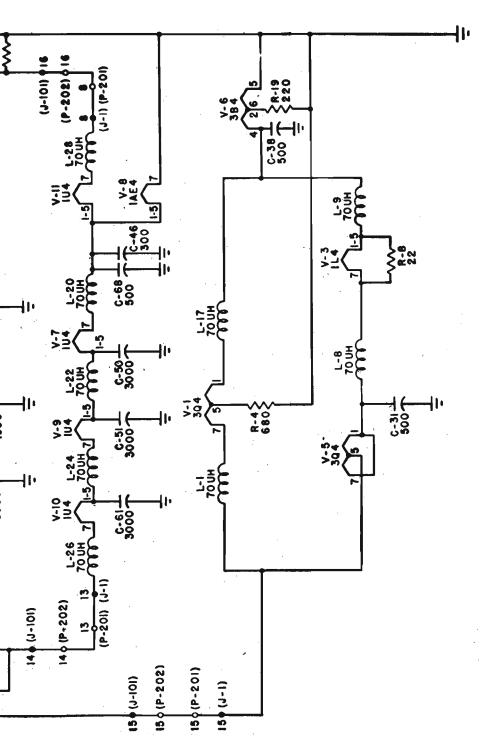
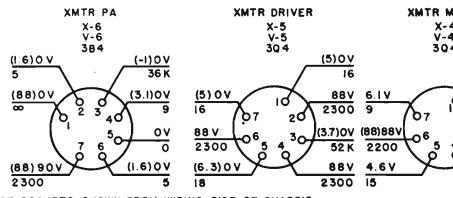


Fig. 67. RT-70/GRC; circuiti d'alimentazione dei filamenti.



0

ΙK

(88)90V

Fig. 68. RT-70/GRC: misura delle tensioni

C

1 - 5

2 - 5

104

· Te

TABLE

V-7 PIN

ALL TUBE SOCKETS SHOWN FROM WIRING SIDE OF CHASSIS.

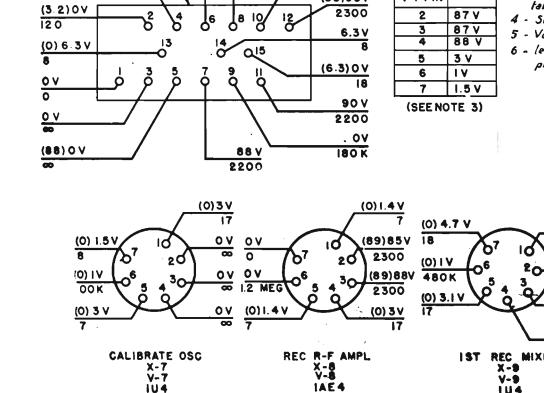
NC

J-I VIEWED

(3.3)0

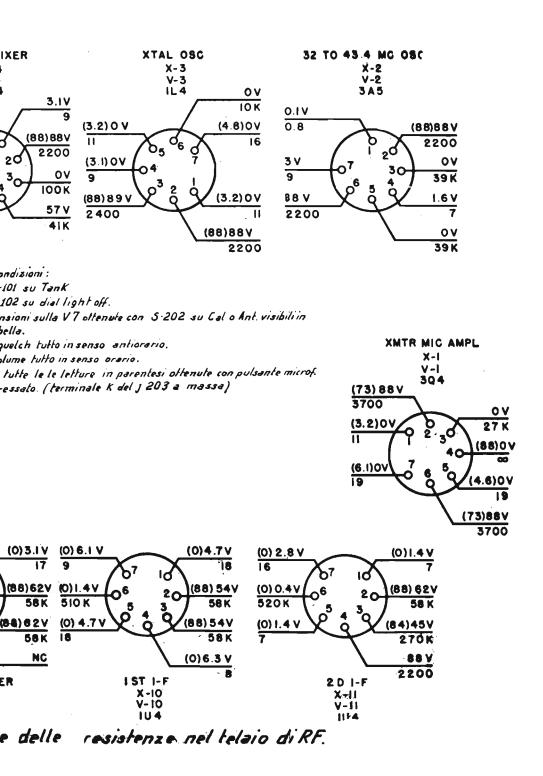
118

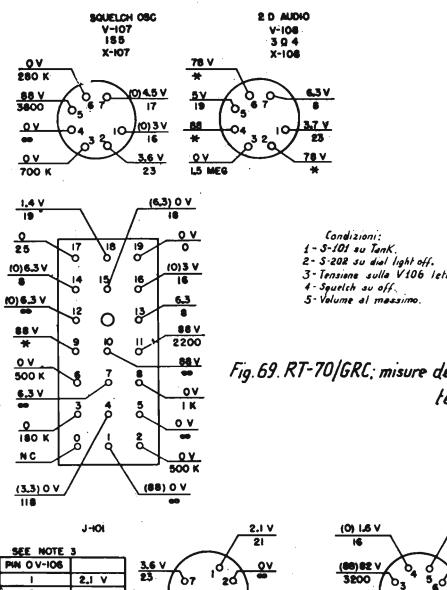
FROM MATING (PIN) SIDE



(0)3V

16





(86)82 V

3200

07

02

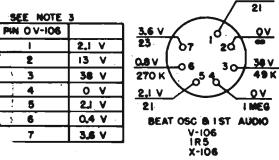
2 D LIMITER

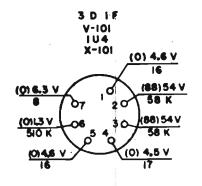
V-105

X-105

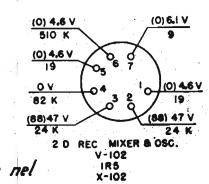
IL4

70





ta con S-202 su Cal (vedi tabella).



elle tensioni e delle resistenze mel elaio di R.F.

(0)1,2 V

(O)-3V

236 K

(O) L5 V

280 K

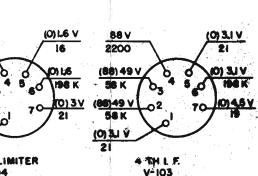
(88)46 V

(88)46 V

58 K

(O) 1.6 V

16



V-104

V-103 (U4 X-103

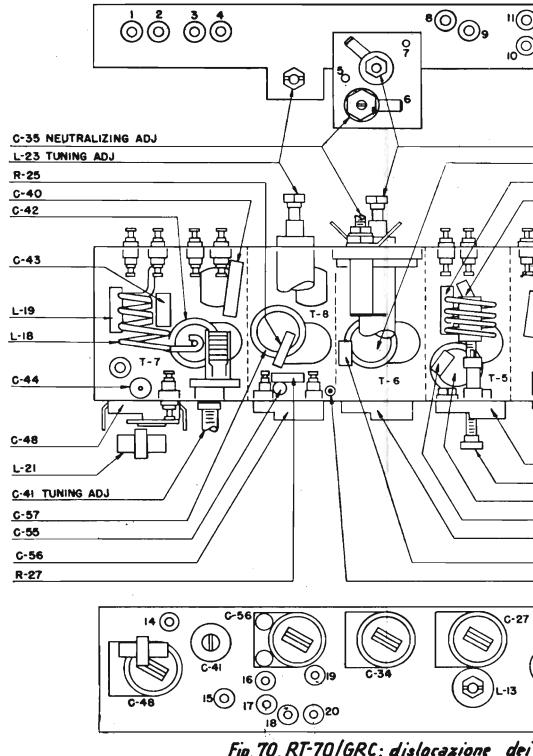
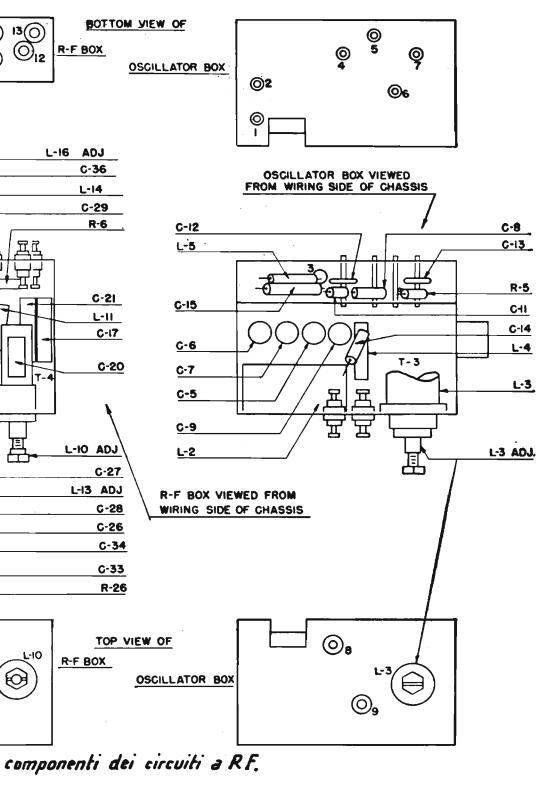
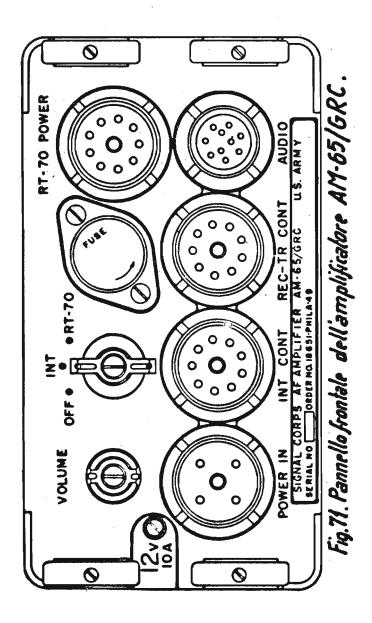
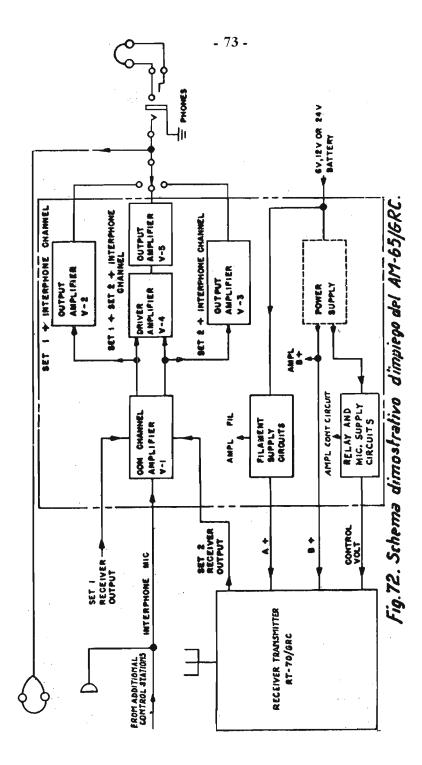
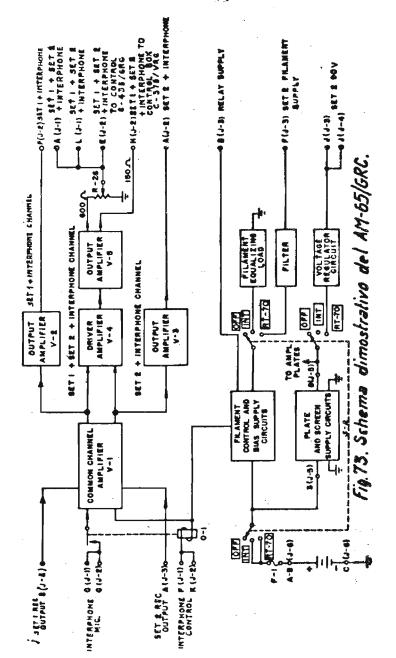


Fig. 70. RT-70/GRC; dislocazione dei









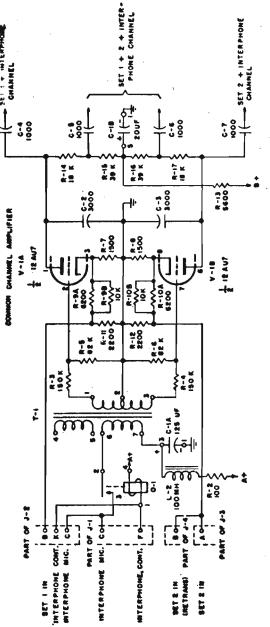
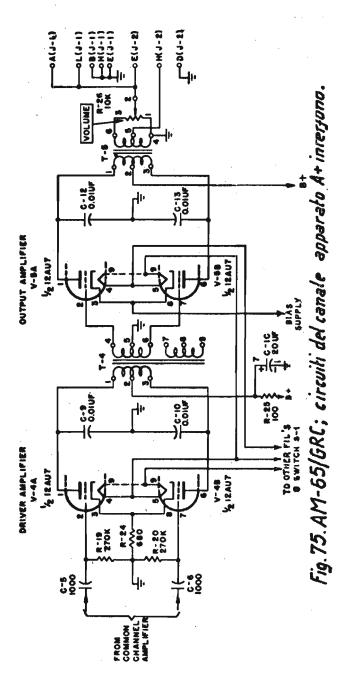


Fig. 74. AM-65/GRC; circuiti d'ingresso ed ampl. del canale comune.



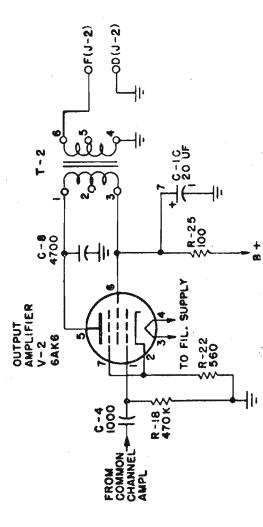


Fig. 76. AM-65/6RC; circuiti del canale apparato A+apparato B+interfono

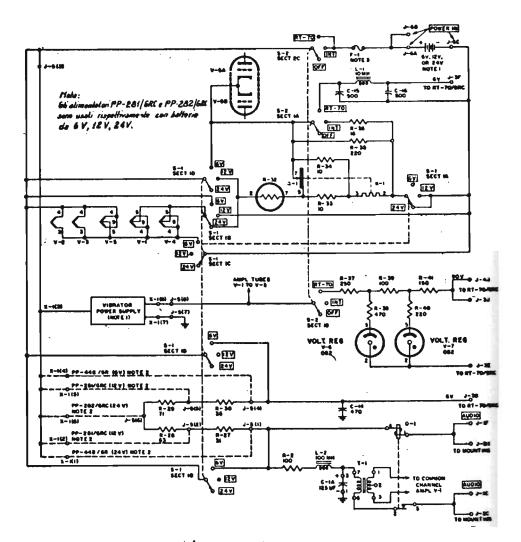


Fig. 77. AM-65/GRC; circuiti dell'alimentatore.

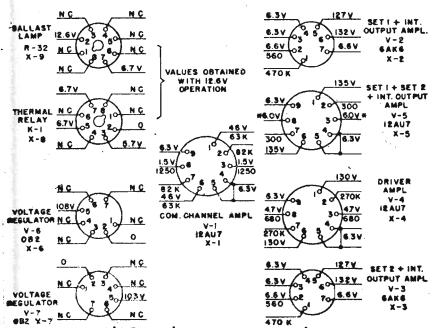
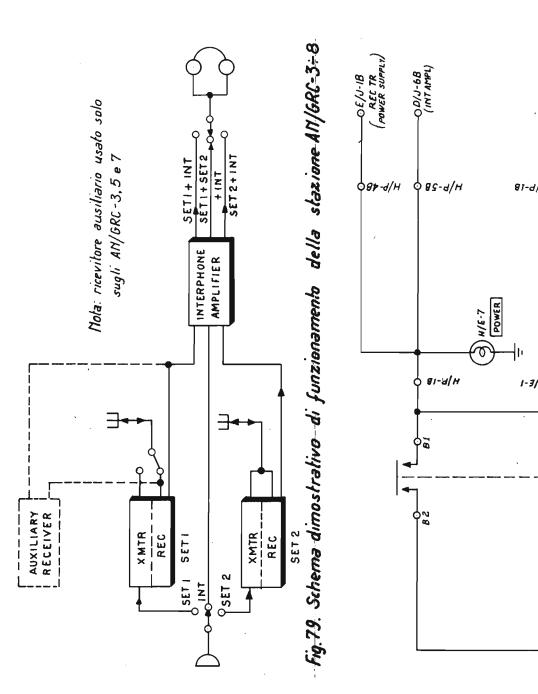


Fig. 78 AM-65/GRC; misura delle tensioni e delle resistenze.

Nota:

- Per le misure di tensione collegare l'RT-70 GRC a resistenze equivalenti
- Usare il voltmetro elettronico. Porre l'52 su RT-70



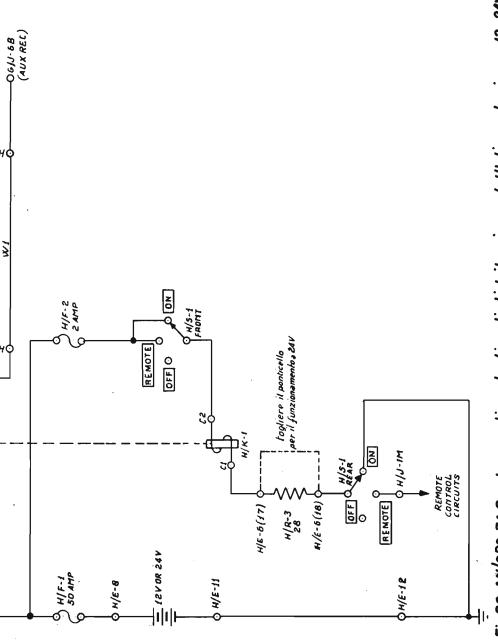
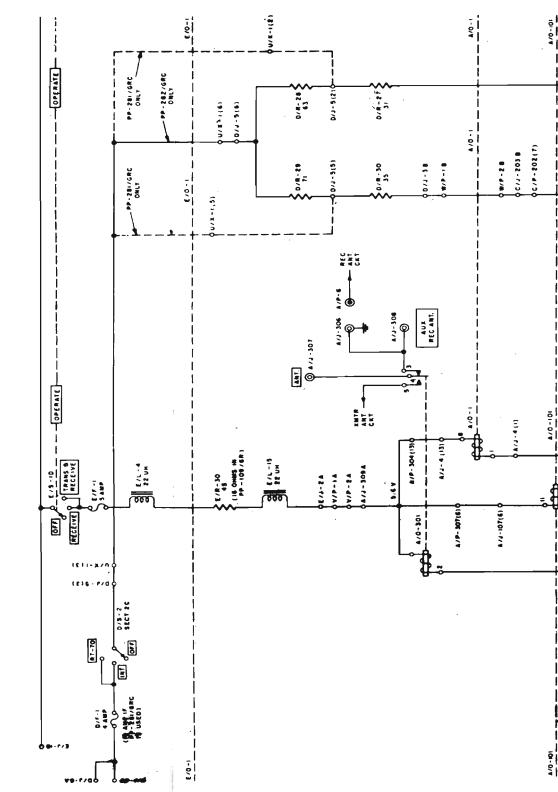


Fig.80-AM/6RC-3-8; shema dimostrativo di distribuzione dell'alimentazione a 12024V



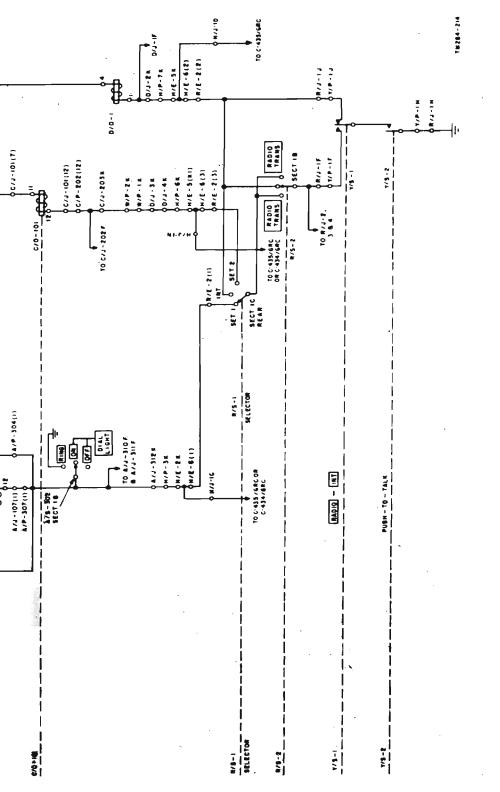
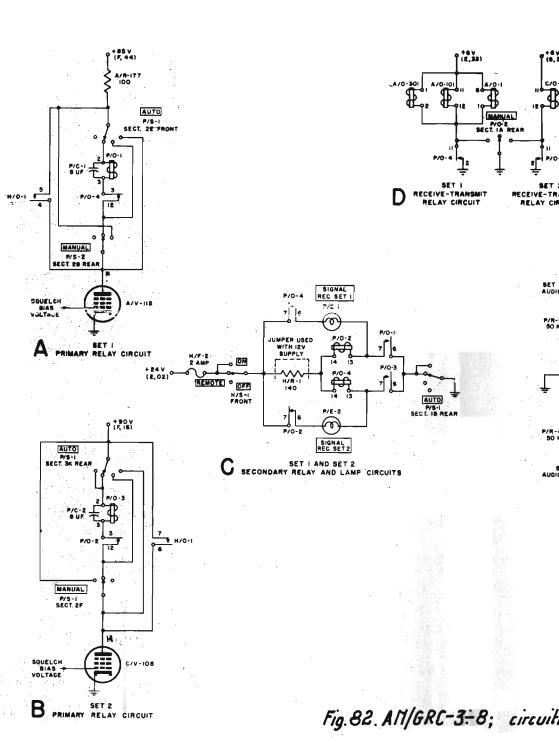


Fig.81. NIJGRC. Distribuzione dell'alimentazione aicircuifi di comando dei relè



101 ^

7)

2

NSMIT

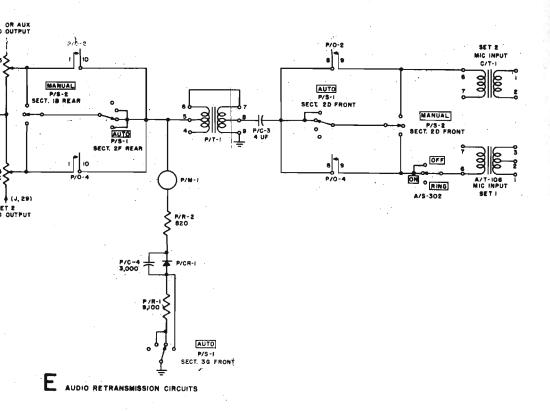
Note:

1-Comm. AUTO P/S-1 ha 4 posizioni ed e mostrato su posizione Retrans Le 4 posizioni sono: Off-Duplex-Retrans-Adjust meter.

2-Comm. MANUAL P/S-2 ha 3 posizioni ed è mostrato su posizione Int. le 3 posizioni sano: Send Set 1- Int- Send Set 2.

3-Le sigle tra perentesi come (F.44) nella sez. A indicano il punto delle coordinate nello schema generale di comando della ritrasmissione.

4-Icontatti di tutti irele sono mostrati in posizioni di riposo, ad eccezzione del rele H/O-1.



di ritrasmissione.

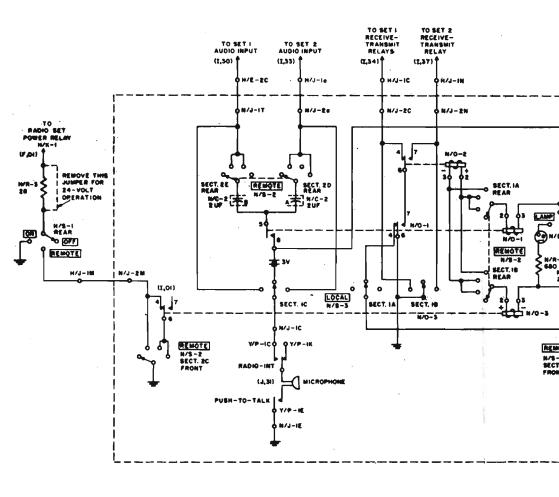
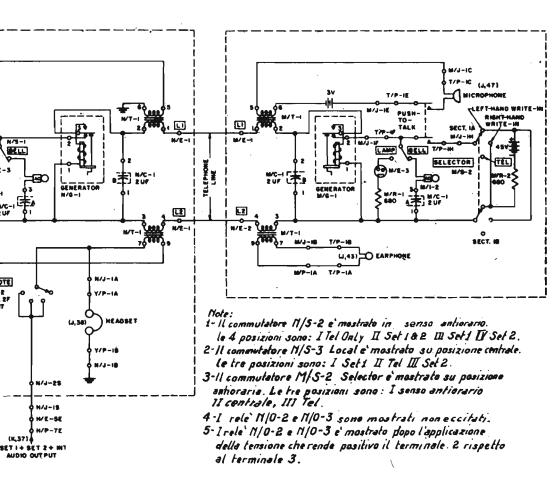


Fig. 83-Circuito elettrico. Comando



a distanza AM/GRC-6

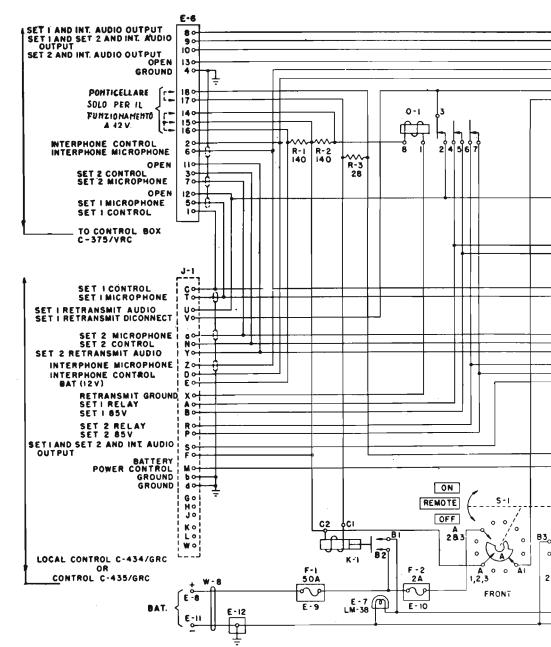
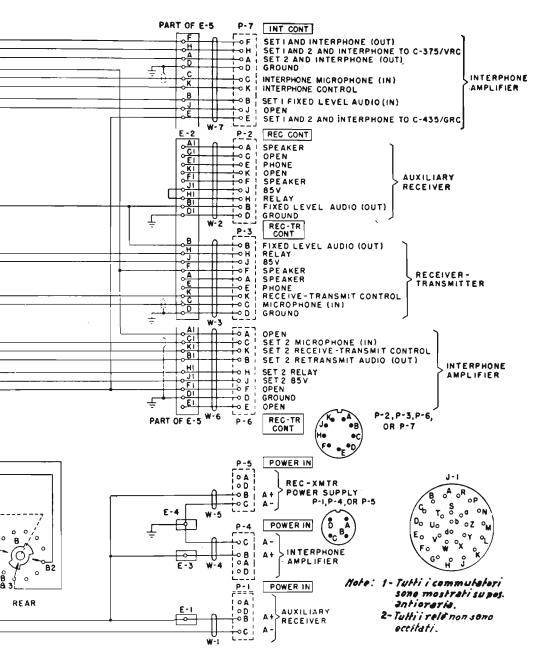


Fig.84 - Circuito elettrico. Base di mo



ntaggio MT-297/GR.

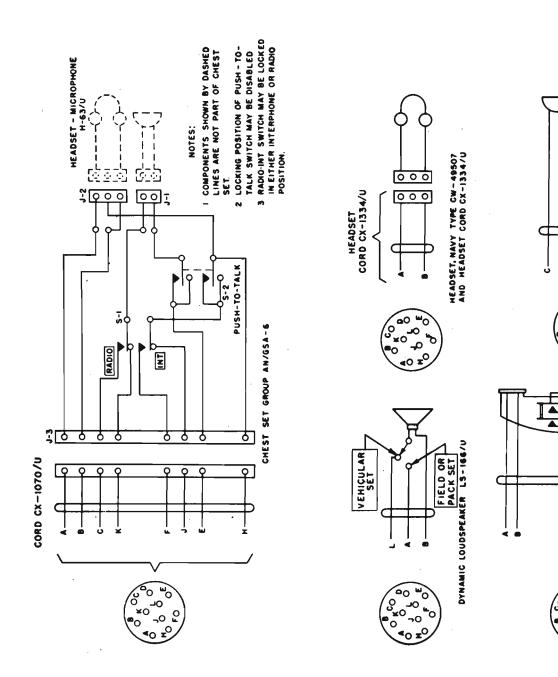




Fig. 85. AN/GRC\_ Circuiti elettrici degli accessori di B. F.

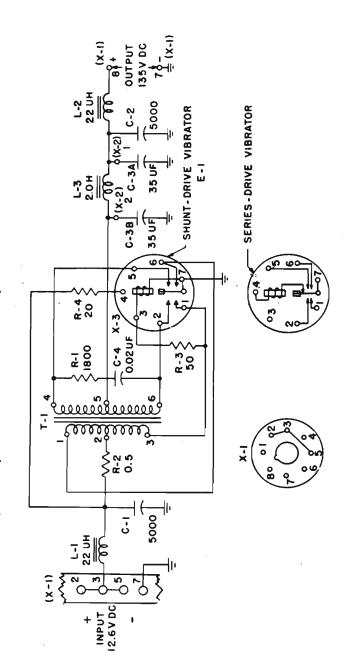
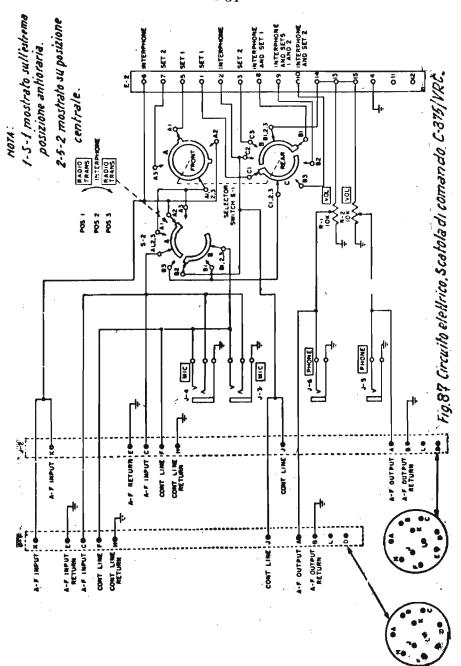


Fig 86-AN/GRC. Circuito elettrico dell'alimentatoro PP-281/#RC.



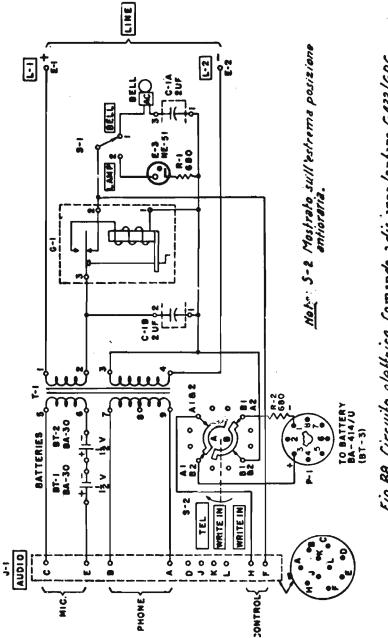
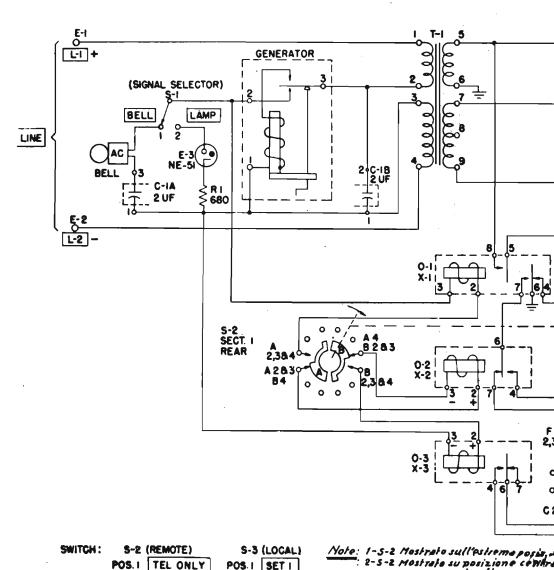


Fig. 88. Circuito elettrico. Comando a disianas tontano C433/GRC.



POS. 1 TEL ONLY POS. 1 SET 1

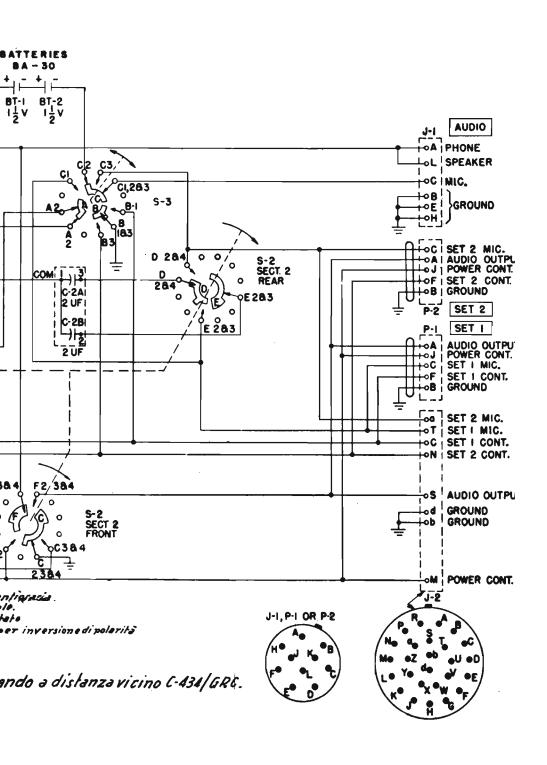
POS. 2 SET 1 82 POS. 2 TEL

POS. 3 SET 1 POS. 3 SET 2

POS. 4 SET 2

Fig.89-Circuito elettrico. Come

Rele 0-1 risulta non ecci Rele 0-2 e 0-3 funzioneno;



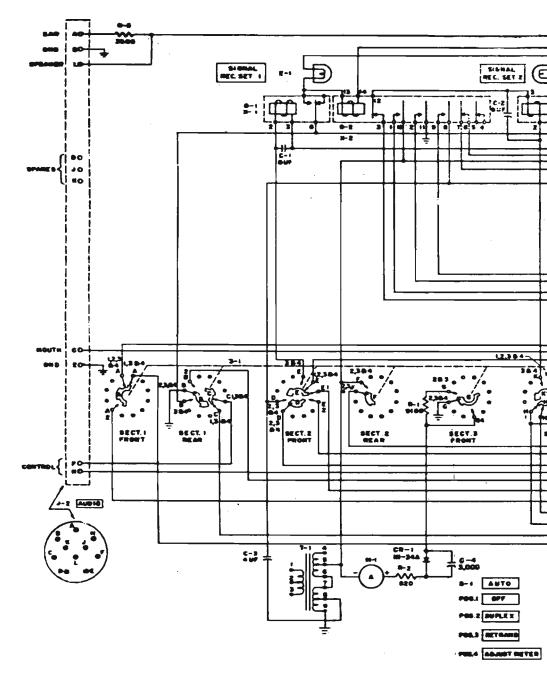
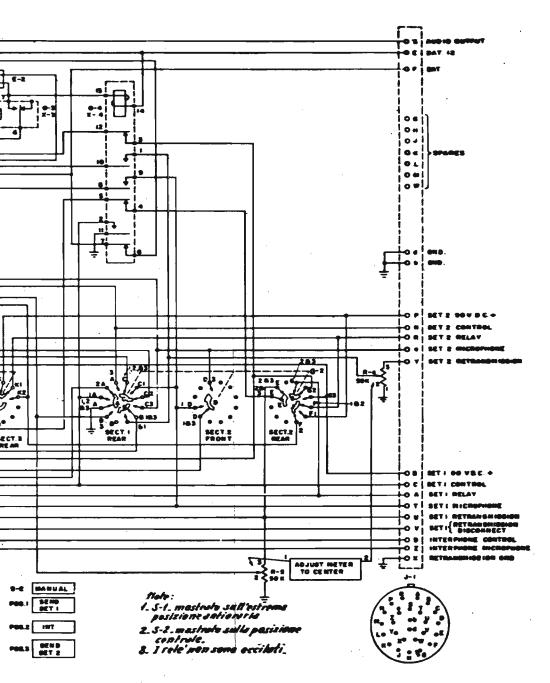


Fig. 90-Circuito elettrico. Comundo di r



itrasmissione in duplice C-435/GRC\_

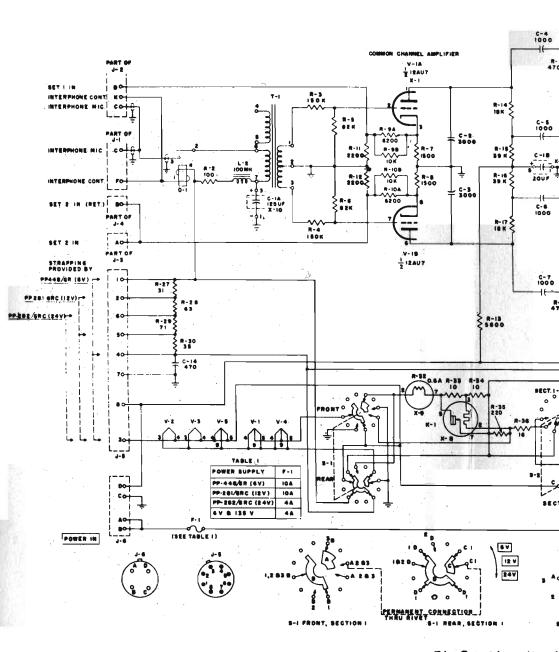
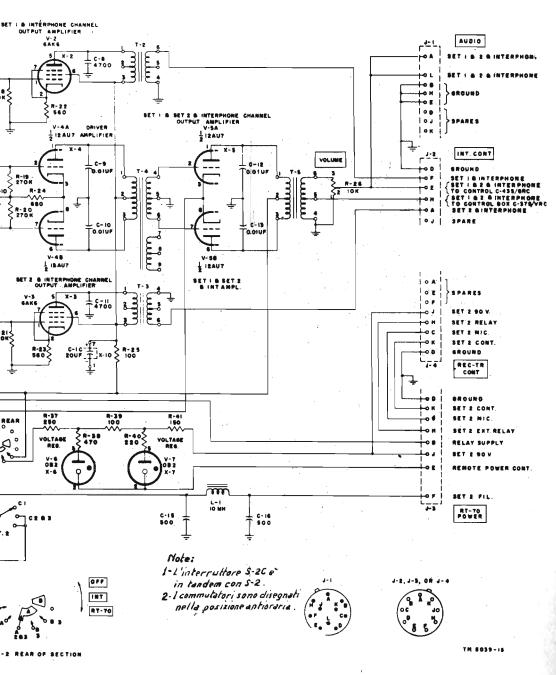


Fig. 91-Circuito ele



ettrico Amplificatore interfonico AM-65/GRC.

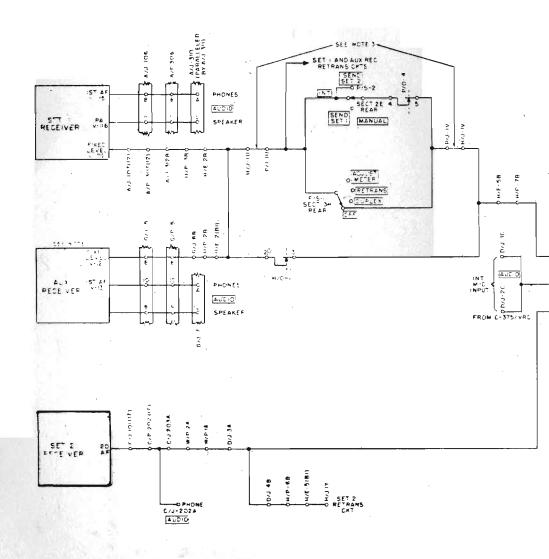
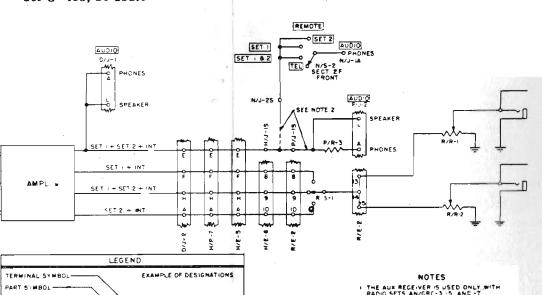
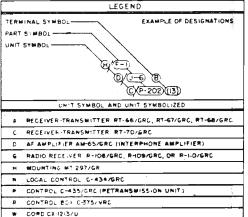


Fig. 92-Circuiti d'escolto delle stazioni ,

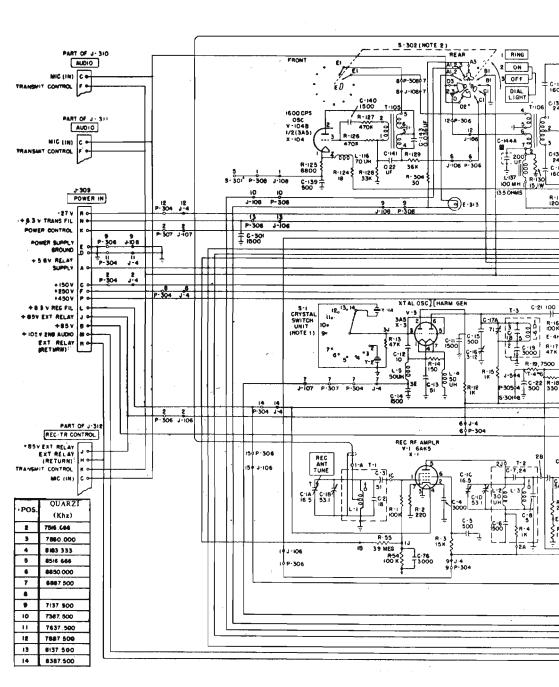
## NOTE:

- 1 Il ricevitore ausiliario è usato solo con le AN/GRC -3 - 5 - 7.
- 2 La linea tratteggiata indica come il C-434 è collegato al MT-297; la linea continua indica come il C-435 è collegato al MT-297.
- 3 Le linee tratteggiate indicano i collegamenti del C-435, se usato





17/GRC-3-8.



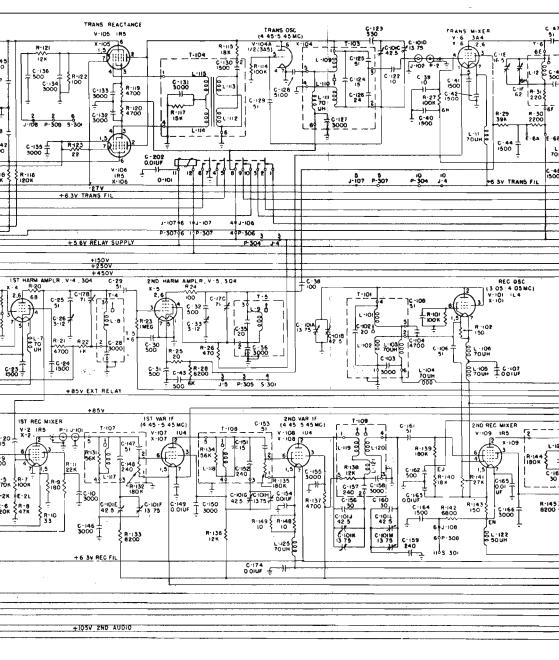
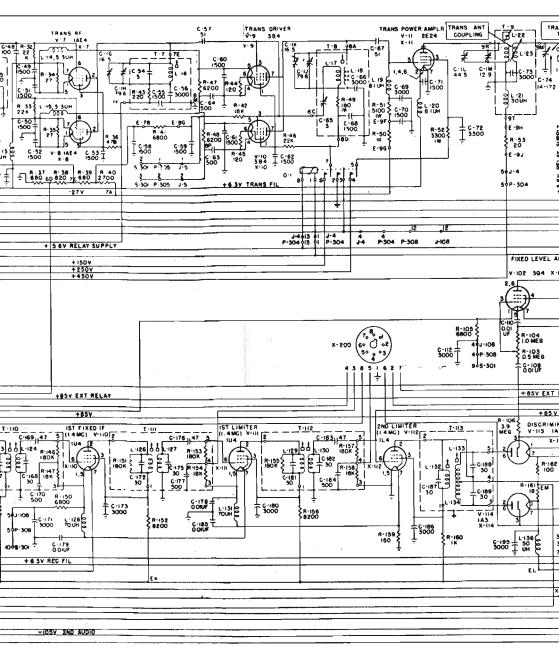
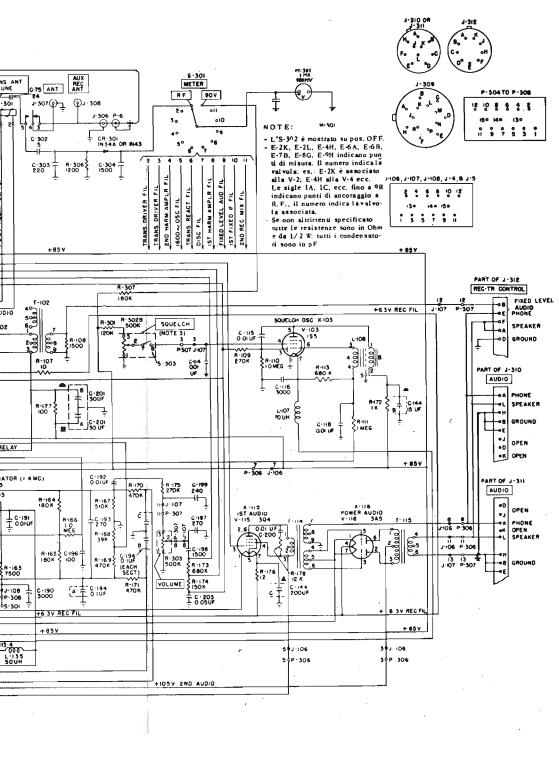
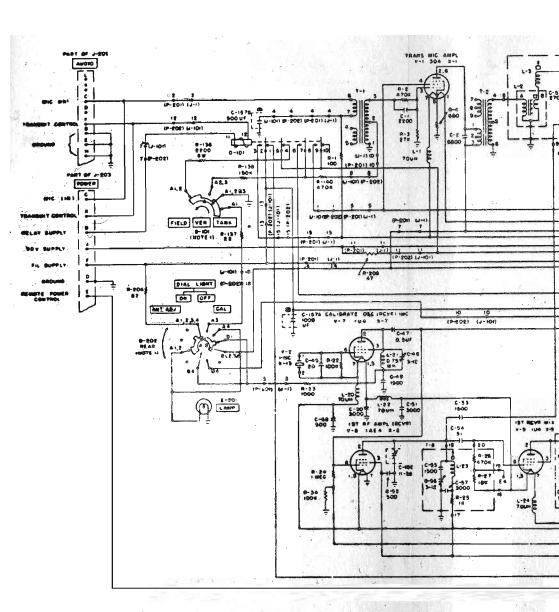


Fig. 36 - CIRCUITO ELETTRICO DI



L RICETRASMETTITORE RT-67/GRC





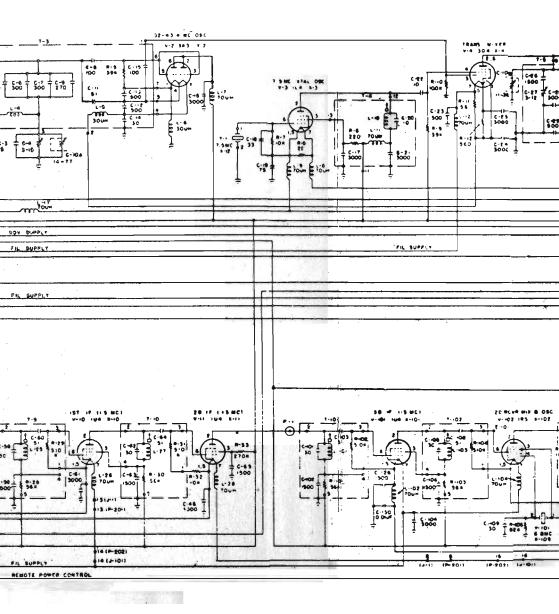
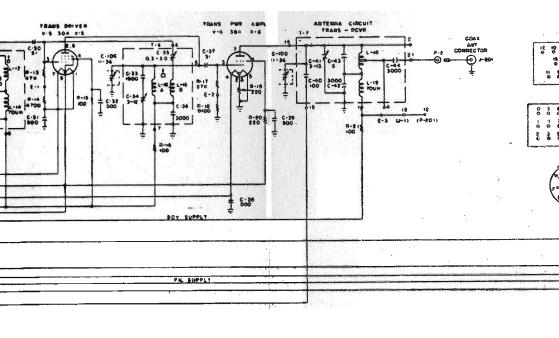
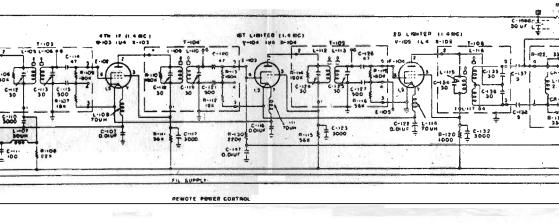
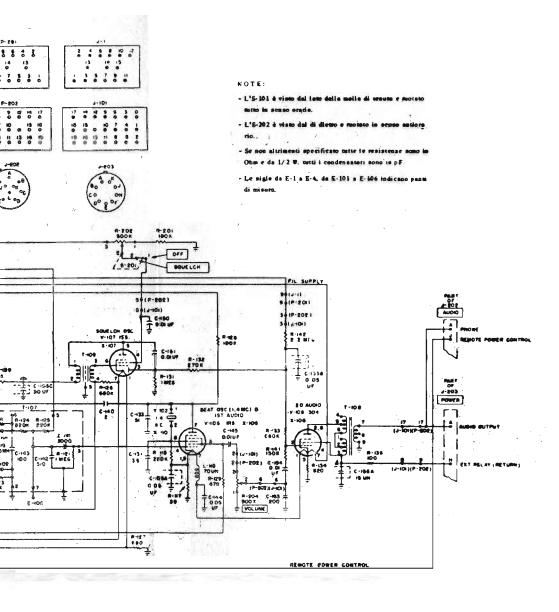


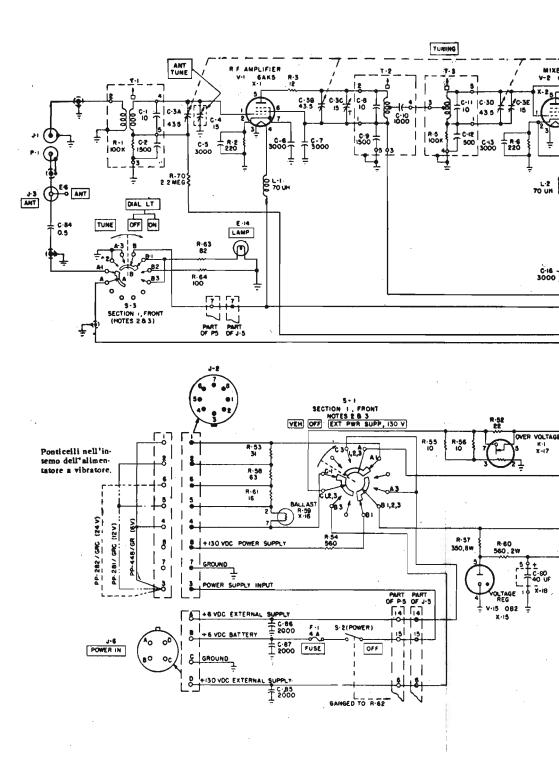
Fig. 37 - CIRCUITO ELETTRICO DEL RICETRA





ENETTITORE RT-70/GRC





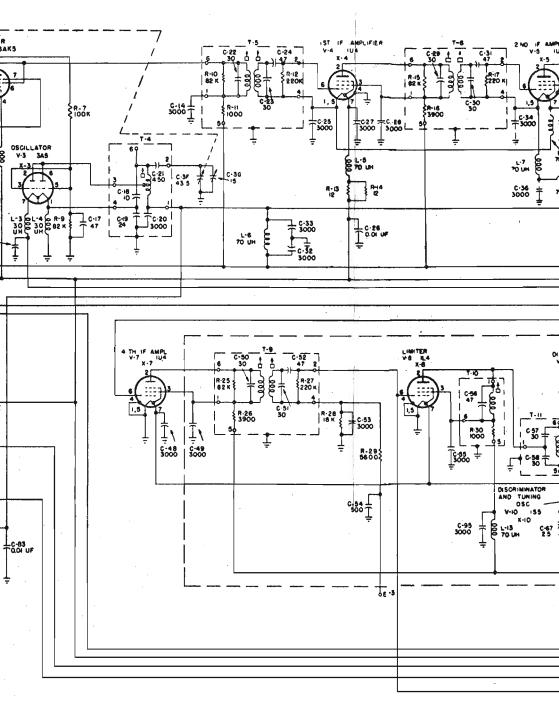
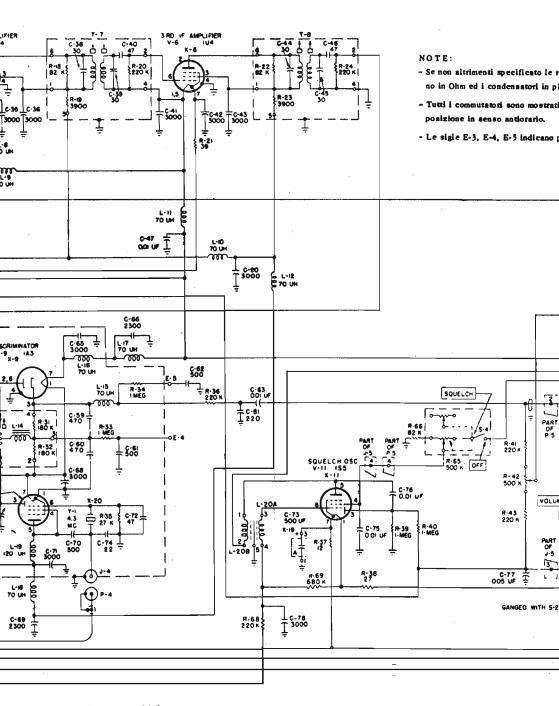


Fig. 38 CIRCUITO ELETTRICO



DEL RICEVITORE R-109/GRC

